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NEW-YORK MEDICAL AND PHYSICAL JOURNAL.

CONDUCTED BY

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Vol. VI. p. 628, line 12 from the bottom, for 1827 read 1787.

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Art. I. *Annual Address delivered before the Medical Society of the State of New-York, Feb.* 6, 1828. By T. Romeyn Beck, M. D. President of the Society.

MR. VICE-PRESIDENT, AND
GENTLEMEN OF THE SOCIETY,

The honourable office to which I have been called by your suffrages, imposes on me the duty of addressing you. I enter upon it with a proper sense of its responsibility, and an anxious, though it may be, a fruitless wish, that I may not diminish the reputation which similar productions of my esteemed predecessors have acquired for us. Among those who have formerly filled the office of President of this Society, are to be numbered men of powerful intellect—of unwearied public spiritedness—venerable for their useful lives, and entitled to the gratitude of the profession and the public, for their exertions to diffuse the benefits of our science, and to raise its disciples to that station to which its liberal studies entitle it. I can only hope for a participation in the last of these qualifications—an anxious wish to elevate the character of our common profession.

Amidst the multiplicity of subjects that present themselves for selection, and which might with propriety be noticed at this time, I have ventured to choose one, which I trust will commend itself to your attention. While its connexion with those branches of medicine to which I have particularly devoted myself, enables me to speak of it with more freedom, it will not be deemed unworthy of your notice, as it embraces not only the interests of the profession, but of the community in general: I refer to the subject of MEDICAL EVIDENCE in courts of justice.

Besides the ordinary, but responsible and most interesting duty of attending the sick, the physician and surgeon is often called upon to exercise other functions. His opinion is often desired on cases of sudden death—of grievous bodily or mental injury—or on the nature of particular diseases and affections. This indeed was the natural result of a regard to the interests of society. As the importance of equal laws became more fully recognised, and the necessity of distributing impartial justice was more fully understood, it would soon suggest itself to the legislator, that whenever evidence was required, it should be of the most unexceptionable and decisive kind. When the controversy originated in mercantile disputes, the opinions of merchants were of course sought for and depended on; and their customs and usages have become a part of the statutes of various countries. So also when unexpected death followed from known or supposed injury—when the suspicion of violence entered into the list of causes, it was natural, that sooner or later, those should be called upon to examine and testify, whose ordinary studies and pursuits best enabled them to decide. We find that it is now nearly three centuries since a formal enactment in a European code recognised this principle. The emperor Charles the Fifth, the most powerful and probably the most talented monarch of his day, in the celebrated criminal code framed by him at Ratisbon, in 1532, ordained, that the opinion of medical men should be taken in every case where death had been occasioned by violent means, such as child-murder, poisoning, wounds, hanging, drowning, and the like.

France and other continental countries soon followed this example, and improved upon its directions. In England, the country from which we derive our laws, no formal statutory provision on this subject is, I believe, to be found; but custom has sanctioned what the necessity of the case rendered imperious—an appeal to medical testimony. Yet it cannot be denied, that this appeal is still avoided as often as public sentiment will permit, and even when legally ordered, its proper objects are often thwarted or imperfectly accomplished. The principle, however, is recognised, and must often be acted upon both there and in this country. It then becomes a most interesting question, how it should be best performed for the furtherance of the ends of justice—in punishing the guilty and rescuing the innocent—how the obstacles to its proper knowledge shall be best obviated—and how the difficulties that attend its execution may be lessened or removed.

In cases of violent death, and these are the most important, as well as the most common, in which professional witnesses are summoned, their duties may be considered under two divisions—first, before the coroner's inquest, and secondly, before the court and jury that is to try the supposed criminal. In other words, the facts that are to govern, are elicited before the former, while before the latter, these facts are to be stated and opinions are to be advanced, which frequently decide the fate of the accusation. This is the ordinary mode of judicial proceeding, though of course it is often necessary to pronounce an opinion even before the coroner's jury, but with the important distinction, that its merits and weight are there seldom canvassed.

The office of coroner is a very ancient and certainly a very important one. It enters into the very essence of his duties, and those of the jury whom he summons, to *view the body.* He is to inquire into the causes which have produced the supposed violent termination of life; and if the injury be manifest, to ascertain its nature and the probable instrument used to effect it. In the discharge of this function, he *may* summon any medical man before him as a witness. That he *should* do it, in every case which admits of the slightest doubt, would seem equally proper and just. Here, however, a discretion is often exercised, the result of which proves injurious—sometimes by permitting a guilty person to escape, but more frequently by introducing a degree of carelessness and hurry in those investigations which are attended by physicians. In some countries this discretionary power is destroyed. In Austria, though a despotic country, a highly laudable care is exercised by the government over its subjects. All bodies found in suspicious circumstances, are required to be examined, reports are demanded from the medical inspectors, and to aid them in their duties, a code of regulations has been prepared and circulated throughout the empire, according to which all are to proceed.* This, indeed, is as it should be. None but medical men can be supposed sufficiently capable of judging decisively of the nature of the case. They are best qualified to separate accidental circumstances from those indicative of violence, and they can best explain and illustrate the variety of natural causes, which, in doubtful situations, have led to suspicion.

Returning, however, to the consideration of those instances where medical evidence is legally demanded, it remains to consider the *powers* and *duties* of the professional witness. It should be understood that he is to satisfy himself as to the *cause of death*. He is to proceed to a dissection, if he entertains the slightest doubt; and he has a right to demand this, or, as an alternative, to deny his testimony.† At the present day, physicians at least, need not be told that an external view alone of the body is perfectly nugatory; that it can lead to no certain deductions, and that a jury is quite as competent to form an opinion upon it as the best instructed practitioner. If it be the duty of judicial officers to obtain in all cases, the *best* evidence in their power, surely the necessity of medico-legal dissections will not be denied.*

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* Quarterly Journal of Foreign Medicine and Surgery, 1. p. 40.

† London Medical Repository, 24. 578. It has been doubted, whether in point of law, it is *imperative* on a coroner to have the body opened.—This, however, is of little practical importance, when we know he cannot *prevent* it, if demanded by competent persons, viz. medical witnesses. His jury is sworn "diligently to inquire and true presentment make," *how and in what manner* the deceased came to his death.—*Medico-Chirurgical Review*, 6. 562.

The *duties* required cannot be satisfactorily or conscientiously discharged without competent knowledge. An acquaintance with anatomy is indispensably necessary, and peculiarly so in those interesting cases, where it is necessary to distinguish the effects of disease or violence from ordinary appearances. Unless well grounded in that science, the phenomena that follows natural death may be mistaken for the effects of poison; and in illustration of this, I need only refer to the changes induced by perforation of the stomach, and the variety observed in the vascularity of that organ.—Anatomy, then, both physiological and pathological, must be applied to the case. Nor is this always sufficient. If the question of poisoning be agitated, chemistry is required to lend its aid.

None, I presume, will question the correctness of these remarks. Let us not then hesitate to make the proper application. The members of our profession in every part of the country, are liable to be summoned, and that on the shortest notice, to take a part in such investigation. Are they—are we—qualified to do justice to them? For myself, I am ready to say, that alone I could never with a free mind undertake a dissection and afterwards appear in court, and give a decisive opinion on the phenomena observed. Others will readily add, that their knowledge of chemistry is not sufficient for making the required experiments. It cannot indeed be otherwise. Medical men are constantly engaged in a most laborious and engrossing occupation—after obtaining their education, their opportunities for pursuing practical anatomy are extremely narrow. Indeed the prejudices of the community, strengthened by the restrictions and penalties of our laws, render it almost impracticable to do more than preserve their early information. The accessary sciences also are only cultivated by a few. Does it not then appear that a duty is required, which in many cases should rather be avoided? I am still confining myself to the preliminary investigation before a coroner, and need only allude to the additional force of these observations when the examiner is transferred to the stand of the witness, and subjected to the inquiries of the bar and the court. How often is a fair reputation and great social worth tarnished by such an event. And would not all prefer having some regulations adopted by which the liability to these appeals might be avoided?*

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* I copy the following note of the editor of the Edinburgh Medical and Surgical Journal, from its intimate bearing on the subject. It will be understood as applied to Great Britain.

"We cannot omit this opportunity of expressing our disapprobation of the conduct of coroners, who presume to interrupt the medical practitioner, called upon to examine the cause of death under suspicious circumstances; and of informing practitioners in general that, as soon as the body is delivered over to them for that purpose, they are to proceed deliberately with their examination until they be satisfied. Upon this subject, we quote with great satisfaction, the opinion of the enlightened judge who now presides over the criminal court of this division of the empire. Dr. Cleghorn, of Glasgow, having been examined in a trial for poison, the Lord Justice Clerk, after highly complimenting the learned professor on his luminous evidence, *took occasion to impress strongly on all magistrates and public officers present, the absolute necessity of having the body of the deceased opened and examined by a medical man, in every case of suspicious death.*"—*Edinburgh M. & S. J.* 14. 468.

I have no novel proposition to offer on this subject. It is one that has been sanctioned by the experience of several continental countries, and has certainly led to the distribution of equal justice. It has done more. In the opinion of competent judges, it has led to the diminution of crimes, evidently from an apprehension of the certainty of their detection. I refer to the appointment of medical men in a county, a district, or a part of the state, who shall be specially charged with this duty.

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* The fact cannot be too distinctly stated, that a *man may be a judicious, correct, and excellent practitioner of medicine, and yet not competent as a witness.*

The first germ of this regulation appears in the German code, which I have already noticed. It has for centuries been the practice in Austria to appoint individuals to superintend these examinations, and to report on them. In 1606, the illustrious Henry the Fourth of France, gave letters patent to his first physician, by which he conferred on him the power of appointing two surgeons in every city and important town, whose duty it should exclusively be to examine all wounded or murdered persons, and to report thereon. It was soon discovered that in many instances, the investigation would be incomplete, unless physicians were associated with them, and accordingly in 1692, this was ordained by the council of state.* The form of the reports to be made by them, and the circumstances to be noticed, make a part of every work now published on the continent, concerning legal medicines.

The advantages of thus designating individuals would seem to be striking and prominent. It would lead to more accurate study of the science. It would afford numerous and favourable opportunities of improving it. It would in a great degree, prevent that disputation about facts, which produces so many unpleasant collisions in courts of justice. It would spare to many, the performance of the most unpleasant duties, often amidst the circle of their practice, and hence liable to injure its extent or impair its usefulness. At present, under existing laws, all are liable to be summoned, yet, as the calls to duty are rare, many neglect to prepare themselves. But under a different order of things, the incumbent, if assigned to a sufficiently large district, would be aware that his aid would be frequently required, and he would properly qualify himself for the task. He would also appear in a judicial capacity, and in the discharge of his appointed duty, and would not be looked upon with that evil eye, which not unfrequently follows for years the physician, who, it is insinuated, might have avoided the inquiry concerning the life of a neighbour.

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* Foderè Medecine Legale, Introduction, Vol. I. p. 32.

It speaks something for the suggestion which I have made, that even in England, wedded as they are to their institutions and averse to borrow from other countries, a wish has sometimes been breathed in its favour by some of her writers.*

It may however be urged, that the time has not yet arrived for such an arrangement. If so, and we are to proceed according to former customs, it certainly appears necessary that examinations of the dead should be made with great deliberation and accuracy. And nothing can be more conducive to this end, than that two or more professional men should be associated together. They will assist each other not merely mechanically, but by suggesting various points of inquiry. While he, who is most skilled in anatomy, is pursuing his dissection, the other may note the appearances as they successively present themselves—and the same course may be adopted while performing chemical experiments. The advantage will thus be attained, of having a complete account prepared at the moment of observation, which may be afterwards reviewed both in coming to a decision on the case and in giving evidence before a jury. We all recognise the utility of discussion, in enabling us to weigh the merits of conflicting arguments, and the application of this may prevent many regrets, as well as prepare the mind for any difficulties that may be suggested. It should be recollected, that the opinion of a medical man before a coroner's jury, may consign an individual to a prison for months, and heap on him the imputation of the most horrid crimes. How necessary then that his decision be strongly fortified by facts and by authority.

When the examination before the coroner is completed, and the charge of guilt is made, the duties of the witness are only half completed. He has to appear before another tribunal—to state the facts noticed—the opinion deduced from these facts, and the reasons for that opinion. He may be, and indeed frequently is, called upon to defend them from the objections of other medical witnesses; and above all, he has to undergo a severe and minute inquiry by gentlemen of the bar, whose business it is to invalidate, if possible, all that he has said.

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* "It is impossible to resist the wish that special qualifications were re-" quired by law on the part of medical witnesses. There is something of " this nature on the continent; and though one of the last of my country-" men who would wish to see the customs and institutions of Great Bri-" tain shaped according to foreign patterns, yet I think we might in some " matters take a hint from and improve upon their practice." *Dr. Gordon Smith on Medical Evidence*, p. 103.

This part of our subject cannot be approached without adverting, with some feelings of professional pride, to the certainty which has been attained in many branches of medical jurisprudence. It is surely no mean exertion of human skill to be brought to a dead body—to examine its morbid condition—to analyze the fluids contained in it—(often in the smallest possible quantities) and from a course of deductions founded in the strictest logic, to pronounce an opinion, which combined circumstances, or the confession of the criminal, prove to be correct.* All this, if properly done, must be accomplished without listening to rumour, and without permitting prejudice to operate. Many, again, have saved the innocent, by showing that accidental or natural causes have produced all the phenomena. And at this time, through Europe, and I may say in this country, there is a numerous band of men who are adding new facts to what we have acquired from former ages—corroborating what was established—simplifying what was complex, and establishing order and exactitude throughout the study.

The first point worthy of recommendation is the importance of stating the facts observed, in plain and perspicuous language. The use of technical terms is often unavoidable, and precision and accuracy must be sacrificed, if they be not adopted. But there is a medium in all this. Many parts can be named by their common appellations, and the appearances observed designated by words in ordinary use. The imputation of pedantry is thus avoided, and every aid is given to a clear understanding of the case. The doctrine founded on the facts, should next be mentioned in an unequivocal manner, so as at once to evince the decided belief of the individual in it, and the reasons on which it is established. This becomes the more necessary from the looseness with which some of the most important subjects that can come before criminal courts have of late years been treated, both by the bench and by medical witnesses, in Great Britain. Fluctuations of opinion have appeared, that would, if carried to the extent of which they are susceptible, destroy all certainty in medical evidence. I allude particularly to questions of infanticide and insanity.

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* "It is such duties ably performed, that raise our profession to an exalted rank in the eyes of the world; that cause the vulgar, who are ever ready to exclaim against the inutility of medicine, to marvel at the mysterious power by which an atom of arsenic, mingled amidst a mass of confused ingesta, can still be detected. It does more: it impresses on the minds of assassins, who resort to poison, a salutary dread of the great impossibility of escaping discovery." Quarterly Journal of Foreign Med. and Surgery, Vol. IV. p. 45.

It is evident that the charge of infanticide cannot be brought, unless it be previously ascertained that the child was born alive. For several centuries, a decisive proof of this was supposed to be attained in the various phenomena exhibited by the lungs, and particularly their floating in water. No subject has been so thoroughly examined by means of experiments as this. But it was the bad fortune of the hydrostatic test (as it is called) to find an enemy in the late Dr. William Hunter; a man of the greatest eminence in his profession, of no mean talents independent of his professional acquirements, and gifted with a fascinating mode of explaining and enforcing his opinions. He formed an idea that too implicit a reliance on this test might lead to error; that many circumstances might occur to weaken its value, and indeed that other causes besides respiration might produce the particular sign that was deemed indicative of independent life. The melancholy situation of those who were most liable to be charged with the crime of child-murder, gave an adventitious weight to his objections, and they formed the theme of every advocate for the unfortunate female who had fallen from virtue.

In themselves, they are worthy of due consideration, and on the continent, though not altogether original to its students, they led to new investigations, by applying which all the causes of fallacy might be avoided, while subsidiary proofs were furnished, strengthening the primary and leading one. This however seemed to have but little influence in England. Few men dared, in the infancy of legal medicine, to question the opinions of Dr. Hunter, and though he evidently had paid little attention to the point experimentally, yet his dictum was quoted as the standard of medical science. In process of time, some of the barristers of that day having ascended the bench, and carrying with them the ideas acquired at the bar, have, on many occasions, denounced the hydrostatic test. Baron Garrow some years since, at the Worcester assizes, congratulated a grand jury, that that *scientific humbug* (as he styled it) was abandoned. Nothing, he added, could be more fallacious. Justice Littledale, in a late trial, told the medical witness, "You do not appear old enough to have seen the late Dr. Hunter; but you must know that he was one of the most celebrated surgeons of this country, and that he asserted that no dependence was to be placed on the test you rely on." It was answered, "I am aware that was his opinion, but I entertain a different one, and I believe mine is now the received theory among medical men." "Then it must be (said Justice Littledale) within the last year or two, if it is, for I have heard some of the most eminent of them deny it." And so is the fact. Physicians are not sufficiently firm in expressing their sentiments. They are too apt to yield to the decisive tone that is adopted and permit doubts to escape them, when those doubts should apply only to the proper performance of the test, or to adventitious circumstances impairing its certainty.*

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* In a case tried at the Essex assizes in March, 1820, where the circumstances were evidently extremely suspicious, and where the lungs were found to float, the counsel for the prosecution, the surgeon who examined them, and the Judge on the bench, all agreed that it was a fallacious test. The Judge (the Chief Baron) said there was no proof that the child was

All this however cannot shake the validity of the test. It is founded on physiological principles, deduced from the broad and wide distinctions that exist between fœtal and independent life. Its prominent proof is strengthened by numerous accessary ones, such as the test of Plouquet, the changes in the heart and large blood vessels, and the appearances observed in the various viscera.* The common sense of mankind, we might suppose, would teach all, that these *must* occur from so important a change to the new-born infant,

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born alive. Again, in a case tried in Scotland, three medical witnesses *who had not seen the body*, were examined for the prisoner, and all of these gentlemen agreed, that if the child had been dead for the period of eleven days, it was impossible for any medical man to come to a conclusion as to whether the child had been alive at the time of birth. Edinburgh M. & S. J. 21, 231. The remarks of the journalist on this testimony are so pertinent, that I cannot forbear quoting them. "The more we turn our attention to the subject, the firmer is our conviction—and in this conviction we are borne out by every one of the few persons in this country entitled to the name of medical jurists—that to procure a satisfactory and irrefragable opinion in cases of infanticide and in all other difficult medico-legal questions, it is only requisite to submit the matter to a dispassionate and skilful investigation. Those little acquainted with medical jurisprudence, whether professional or unprofessional, universally confound together *doubt and difficulty*. The question involved in the trial, must be allowed to be almost always difficult, but we are certain, that when properly examined, scarcely one instance in a hundred will prove doubtful."

I add the following extraordinary case, to show how far judicial interference has been carried. The infant was found dead in a box, with several wounds on its neck and breast, and marks of injury to the skull. The lungs were distended with air, and they, with the heart attached, floated in water. The mother had been delivered alone a few hours previous, but denied it. On the trial, the medical witness, Dr. Robinson of Bridport, was not allowed to state his experiments on the lungs, and the Judge (Baron Garrow) interrupted the counsel for the prosecution to state to him that the test was a vulgar error. *London Med. Rep.* 22, 347.

* "The pulmonary test (says Ristelheuber) is no longer a simple trial, whether the lungs are buoyant or not, though this phenomenon is of high importance and great value in the estimate, but it consists moreover in examining the thorax, the lungs, and indeed every part that undergoes a change in consequence of respiration." *Rapports et Consultations de Medecine Legale, par J. Ristelheuber*, p. 140.

and all anatomical knowledge is a mockery, if they be not founded in truth. Even allowing full weight to the scientific objections that have been made, they only prove that there may be cases, where the test is not applicable. They cannot affect its general application.

The result however in England, of the fluctuations of opinion that I have noticed, is not surprising. It has become proverbial there, to say, that no female can be convicted of infanticide. This is also probably to be somewhat ascribed to the severity of the laws, which makes it a capital crime, and prescribes imprisonment for the concealment of the death of the offspring. Sir Walter Scott's "Heart of Mid-Lothian" gives an instructive picture of the barbarity that once disfigured the Scottish law. Such however is not the mode to repress crime. The certainty of detection probably does more to restrain the hand of the murderer than any other cause, and this can alone be attained by the application of the pulmonary test.

The subject of insanity deserves a brief notice, from the discrepancy that practically occurs between civil and criminal cases, and which often results from the employment of terms in legal works, that are either abandoned in medicine, or used in a different sense. One of these is the phrase—*a lucid interval.* Medical men have nearly abandoned it, since they know of no such state as was formerly intended to be expressed by it. The disease present in the insane, is to be taken as a whole. They are either labouring under it, or they are free from it. Quietness, orderly conduct, or even rational conversation, is not proof that they are rational; and this is the nature of the malady. When the raving paroxysm is over (and many have but few and short attacks of it) they will appear to the uninstructed observer, as of sound mind. They converse on all subjects, but one, with perfect propriety. Strike that key note, and all is disorder and confusion.[*]

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[*] I delight to refer to the authority of that great luminary of French Jurisprudence, D'Aguesseau. His remarks are an admirable commentary

Now this would be of comparatively little importance in a public point of view, were not the legal interpretation of the term applied in criminal cases. It is not, I believe, recognised in civil ones. There, there must be a perfect recovery, before property is restored.* But an action which when committed by a sane person, would be criminal, is deemed the same when perpetrated during the supposed lucid interval—or, in other words, the individual is held answerable for his acts, if he possess a mind capable of distinguishing between right and wrong. This was the language of Sir Vicary Gibbs, the Attorney General of England, and of

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on the medical experience of those excellent and gifted men, who of late years have superintended lunatic establishments in Europe and this country with so much success. "It is easy (he says) to remove the ambiguity which they have endeavoured to introduce, by confounding a *sensible action* with a *lucid interval*. An action may be sensible in appearance, without the author of it being sensible in fact, but an interval cannot be perfect, unless you can conclude from it, that the person in whom it appears is in a state of sanity; the action is only a rapid and momentary effect, the interval continues and supports itself; the action only marks a single fact; the interval is a state composed of a succession of actions."

And again. "If it was true that a proof of some sensible action was sufficient to induce a presumption of lucid intervals, it must be concluded, that those who allege insanity could never gain their cause, and that those who maintain the contrary could never lose it. For a cause must be very badly off, in which they could not get some witnesses to speak of sensible actions. A reasonable action is an act—an interval is a state. The act of reason may subsist with the habit of madness, and if it were not so, a state of folly could never be proved."—*Pothier's Treatise on the Law of Obligations, London*, 1806, Vol. II. Appendix 19, p. 670, 671.

* Lord Eldon, in a case that came before him on an application to supersede a commission of lunacy, said—"Unless the physician who swears that he has frequently seen the prisoner, and thinks him of sound mind, *can go further*, and says that he has examined the grounds of the opinions of those medical gentlemen who thought otherwise, and the result is, *that just and accurate as those conclusions were, or inaccurate upon his own conclusion satisfactorily formed, the present state of the party is as he represents it*—unless the affidavit comes with some such exposition, I cannot try the truth of the reference. *Ex parte Holyland.*"—11 *Vesey, jun. Reports*, p. 10.

Sir James Mansfield, the Chief Justice, on the trial of Bellingham, the murderer of Mr. Percival.* How is this to be ascertained? "If it should be presumed (says Dr. Haslam) that any medical practitioner is able to penetrate into the recesses of a lunatic's mind, at the moment he committed an outrage; to view the internal play of obtruding thoughts and contending motives—and to depose that he knew the *good* and *evil*, *right* and *wrong*, he was about to commit, it must be confessed that such knowledge is beyond the limits of our attainment." "A person in his senses may entertain and believe a number of unfounded and erroneous opinions, but on the exposure of their falsity, he is capable of being convinced; but the madman never is, and this forms the great distinction between them. This incapability of being convinced of the *good and evil*, *right and wrong*, *truth and falsehood* of his belief, is that which, as an intellectual being, renders him different from other men, and constitutes his distemper."† The delusion also under which many labour, and which impels them to suicide or murder, shows little of the required knowledge. Lord Erskine undoubtedly approached nearest to the solution of this difficult subject. "In cases of atrocity (he observes) the relation between the disease and the act should be apparent. As a doctrine of law, I think the delusion and the act should be connected."‡

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* Collinson on Lunacy, Vol. I. 657, 672. See also Starkie on Evidence, Vol. III, 1704.

† Medical Jurisprudence of Insanity, by John Haslam, M.D. in Cooper's Tracts, p. 294, 302.

‡ Ibid. p. 318. In France, the subject of homicide committed by supposed maniacs, has excited much discussion within a year or two. Georget has written on it, and a work by Hoffbauer, a German lawyer, is also highly spoken of. I will add in this place, that Lord Eldon's introduction of the term *unsound mind*, as indicative of a state different from *lunacy* and *idiocy*, can only add to the number of synonymous terms, without producing any useful distinctions. His dictum as Lord Chancellor might give it currency, but it is not authorised even by the writings of English lawyers, and much less by medical experience. I speak now of it, as

Leaving the consideration of these points, and which I fear has proved tedious, I proceed to mention that the medical witness is often placed in a delicate situation from the circumstances under which he is summoned. He is a witness for one or other party—for the prosecution or for the prisoner; and he is so summoned, in the belief that his evidence will favour the side by which he is produced.* It would be desirable, that at least the person who has made the previous examination before the coroner's jury, should be divested of this, so far as to enable him to give a full and fair statement of all the circumstances that make for either side. I am aware that he can now do so, and indeed his oath obliges him to it. He ought to put the judge and jury in possession of the "*whole truth,*" even if he be not questioned to that extent.† But often the technicalities of an examination, and particularly by an adverse counsel, overcome that self-possession which is so essential. Pressed by perplexing questions, and probably irritated in his feelings, he is apt to make declarations more strongly corroborative of opinions that he has formerly advanced, and as his examination advances, he may incur the charge of being *biassed,* more than facts will warrant.

Would not this difficulty be avoided by having the written report to which I have referred, presented to the court, as the *medical facts in the case?* The examiner before the coroner's jury will always have time to prepare this deliberately and cautiously—he can state in it his doubts, and mention the circumstances which are favourable or unfavourable to the accused person. *He can avoid all imputations of being a partisan,* and having once signed it as his deliberate opinion, he ought of course not to be allowed to alter or amend without showing the most satisfactory reasons.

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expressing a *particular* state of mental alienation. Some valuble comments on it will be found in the Edinburgh Med. and Surg. Journal, Vol. XIX. p. 613.

Dr. Smith on Medical Evidence, p. 66.

Smith's Forensic Medicine, 1st edit. p. 8.

We have now supposed the facts to be settled. The next difficulty that may occur is the difference of *opinion* that unfortunately too often arises in courts of justice between members of our profession. They disagree on the bearing and weight of certain facts and on the deduction to be drawn from them. The most common cause of this, in my judgment, is the delivery of testimony, *vive voce.* That class of witnesses who are called upon to give opinions on a certain statement of facts, have generally been unable to examine it before the trial. They often hear it imperfectly, sometimes confusedly, and at all events, even if detailed in a succinct and clear manner, they have but a few moments to reflect on its various import, before they are called to decide upon its relevancy. Another circumstance must not be forgotten, and that is, the want of knowledge in one or the other witness. It is seldom that you can find any two persons who are equally skilled on a subject, and so it is here. *One is ignorant in comparison with the other.*

Both these would certainly be greatly obviated by having the written reports to which I have adverted, as the basis on which they found their opinions. These could be examined with deliberation, and the objections offered would then bear the impress of due reflection.

But allowing that all this could be effected, differences will still exist. How are these to be decided? The rule of law is applicable with proper explanations. "When a witness (says Starkie) testifies to a fact, which is wholly or partially the result of reason upon particular circumstances, it is obvious that the reasons of the witness for drawing that conclusion are of the most essential importance, for the purpose of ascertaining whether the conclusion was a correct one. And these observations apply with peculiar force to all questions of skill and science."*

If we carry out this principle, we shall find that all practitioners are not proper witnesses. In a case where anatomical knowledge is particularly necessary to elucidate the case, most importance should be attached to the opinion of him who has cultivated that science. When any question relating to the treatment or symptoms of disease is agitated, he should be consulted, whose opportunities are extensive and whose judgment is approved. So, also, with other departments of our science. The regrets of John Hunter are a lesson to all of us. Standing at the height of his profession, and to which he had been elevated by the force of genius alone, eminent as an anatomist and physiologist, he was summoned in 1780, as a witness on the remarkable trial of Captain Donellan, for poisoning his brother-in-law, Sir Thedosius Boughton. Although he evinced great knowledge, yet, says Sir Astley Cooper, "He regretted that he had not made more experiments on the subject of poison, before giving an opinion in a court of justice. He found himself a good deal embarrassed; and he used to express his regret publicly in his lectures, that he had not given more attention to the subject before he ventured to give an opinion in a court of justice."*

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* Starkie on Evidence, I. 460.

I need not enlarge in this place on the propriety of medical witnesses treating each other with respect. Even if opposed in sentiment, they may still express themselves with courtesy, and with a due regard to their respective reputations. If they do not guard these, others will with pleasure aid in the work of depreciation.†

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* Lancet, Vol. III. p. 171.

† I quote two cases, one of which illustrates the *cruelty* which practitioners sometimes exercise towards each other, while the other is worthy of its excellent and kind-hearted narrator.—"A surgeon had reduced a dislocation of a child's elbow, for which the father resisted payment, on the ground that the injury was merely a sprain, and that the charge was excessive. To recover his fee the practitioner brought an action. The ordinary medical attendant of the defendant's family *saw the arm on the following day, accidentally, and in his opinion there was no dislocation.*"

"Sir Wm. Blizard, who had already spoken in favour of the plaintiff's

But *personal experience*, however comprehensive it may be, cannot always be satisfactory, nor indeed sufficient. It has then been a subject of considerable discussion whether *authority*, or, in other words, the observations of others, should be adduced as testimony. There appears to be no settled rule on this subject, although certainly some judges have decided against its introduction. When Dr. Neale, on the trial of Donnal for poisoning, quoted Thenard, whose work on chemistry is as much authority with physicians as Starkie and

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character and professional qualifications, was again examined upon this point, and very properly discountenanced such an inference—stating, that it was *impossible for any one, after twenty-four hours*, to say whether a dislocation had taken place or not, if it had been properly treated."—*London Med. Repository*, 21, 264.

Mr. Abernethy states the following in his lectures. His characteristic manner would seem to be preserved in the report. "A medical man was prosecuted for killing a child by giving it opium, at least that was said. I happened to be in the country at the time, and was strongly solicited by him to attend and give my opinion. I considered that the character of the profession was at stake, and although rather against my inclination, I went. After waiting in a crowded court the greatest part of the day, I was called upon, and placed in the witness box. The lawyers had taken it into their heads that the child had died from maltreatment on the part of the surgeon: the child had been scalded severely, and he had given opium, and they thought they should be able to make the jury think as they did. The first question put to me was, "Mr. Abernethy, will you inform us what is considered the proper treatment for scalds?" This was a question broad enough to be sure; I was puzzled a little how to answer it; I did not know but that they would require a lecture on burns and scalds. I considered a minute, and then said, "That which was adopted in the present case." Oh! that was what they did not expect; it was giving a turn to the case which they did not like. "You have heard the evidence, have you not?" "Yes, but it is contradictory." "But judging from the evidence?" "I have no right to judge; you may judge, if you please, or the jury may judge, but I shall not." "But I ask you, for the information of the jury, your opinion respecting the opium, whether you do not consider it too large a quantity for a child?" "The statements respecting the opium have been contradictory, but admitting that the child had, as was said, eight drops immediately after the accident, and ten drops two hours after, I should say that the child had not taken one drop too much." "But are you aware that the child had no pain?" "Yes, per-

Phillips are with lawyers, Judge Abbot said, "We cannot take the fact from any publication; we cannot take the fact as related by any stranger."* So, also, on the famous trial of Spencer Cowper, when some of the witnesses referred to medical authors on the subject of drowning, it was objected to by the bench. The expostulation of Doctor Crell on this deserves repetition. "My lord (said he) it must be reading, as well as a man's own experience, that will make any one a physician; for without the reading of books in that art, the art itself cannot be attained to. I humbly conceive, that in

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fectly; when the skin, or any other part of the body is severely injured, the nervous system of the part is so affected that the peculiar actions of the nerves on the brain or spinal marrow, by which alone pain can be felt, do not take place. A man may have a serious injury inflicted by a mechanical cause, may have his leg smashed, and nearly torn off in machinery, and yet feel little or no pain; and we are in the habit of giving, in such cases, wine and opium, not to act as a narcotic, but to arouse the energies of the vital powers, and call them again into exercise: the nervous system has sustained a great shock, from which it requires to be roused."—The judge said, "that he understood it; he saw the principles on which the treatment was founded, and had no doubt but it was correct." "But my lord," said the counsel, the child slept to death." "So he may have appeared to sleep, but he would have done so if no opium had been given; it was the torpid state into which the nervous system had fallen which caused that appearance, and from which the child [could not be roused." Here the business rested, the treatment was admitted to be correct, and the character of the gentleman exculpated."—*Lancet*, Vol. VI. p. 229.

In some cases, medical witnesses have met with deserved reproof. On the trial of Donnal, Mr. Ticknor, a surgeon, was asked—"Supposing a person to have retchings and purgings for several hours, and that you found these attended with a frequent and fluttering pulse, in that state of the illness, what should you have prescribed? Ans.—I should have prescribed diametrically opposite to the prescription of Dr. Edwards. I should consider that prescribed by Dr. Edwards as adding weight to a porter's back.

Mr. Justice Abbot to the witness. "Don't speak metaphorically: you are speaking just now of a gentleman of experience and respectability. I don't wish you to conceal your opinion, but only to speak it in different language."—*Paris and Fonblanque's Med. Jurisp.* III. Appendix, p. 304.

* Paris and Fonblanque, Vol. III. Appendix, p. 299.

such a difficult case as this, we ought to have a great deference for the reports and opinions of learned men; neither do I see any reason why I should not quote the fathers of my profession in this case, as well as you gentlemen of the long robe quote Coke upon Littleton in others."*

On the other hand, in order to show that the doctrine of exclusion is not fully established, I need only allude to the frequent mention made by judges themselves of the writings of Dr. Wm. Hunter. Surely if these be authority, the works of other eminent men are equally so.

In this country, I believe, the objection has never been made. There is scarcely a case of any note where medical testimony has been required, in which frequent reference has not been had to medical works. They are quoted and commented upon by the bench, the bar, and the professional witnesses.

I must not refrain from mentioning, that the responsibility of the physician is often greatly increased by the mode of the examination. "A dexterous advocate (as has been well remarked) has a great advantage over any witness, however learned or self-possessed. He may be led into a train of admissions, the inferences from which are afterwards to be turned against him."† Many of these undoubtedly originate from inquiries into the import of *individual facts*, instead of the *whole collectively*. The consequences of such attempts may be easily conceived. "In a vast majority of cases, for example, in all cases of insanity, infanticide, and poisoning, the witness may be made to express the very opposite of his real opinion."‡

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* Hargrave's State Trials. "It appears to us that no witness could follow this advice (to shun quoting authorities) without compromising the right and dignity of his profession, as well as the force of his evidence; for it would not be difficult to show that medical evidence altogether is little else than a reference to authority.—*Edinburgh M. & S. Jour.* 19, 480.—See also ibid. p. 610.

† Smith on Medical Evidence, p. 42.

‡ Edin. M. & S. Jour. 19, 611. The difficulties attending this have in-

If the duties on which I have enlarged, are important to the community, in promoting the proper administration of justice, ought not the individuals engaged in them to receive adequate compensation? I advert to this, not only because it is just in principle, but because it would remove all imputations of volunteering in criminal cases. No one can refuse being a witness when legally summoned—every one, I presume, may decline the dissection of a dead body, or the

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duced some to advise, that *no opinion* should be given, and to refuse it when asked. But I cannot see how an answer is to be evaded, except by pleading ignorance. Mr. Abernethy, in the following case, says, he gave no opinion; but I should suppose that no one, after perusing it, could deny that he has given a *most decisive one for the prisoner.*

"The case was that of a *Lascar*, who had been struck with a *marlin-spike*, aboard ship, and he died; and then the question was, whether the blow he had received with the marlin-spike had killed him or not. When I went into court, and after the evidence had been given with relation to the transaction, the lawyer said to the judge, "My lord, Mr. Abernethy is in court, and we will thank you to take his deposition now, as we know his time is valuable; will you have the goodness to take it now?" "Certainly." "Can you, sir, from what you have heard, form an opinion as to whether the blow this Lascar received, was, or was not, the cause of his death?" To which I answered, "My lord, there is no evidence before this court, upon which medical opinion can or ought to be founded." "What, sir, don't you mean to give an opinion at all?" "No." "Why, sir, you were sent for, for the purpose of giving an opinion." I told him I should not do it. Then the party had a counsel, and he got up: "O, Mr. Abernethy," says he, "it might have been the fever, you know, that destroyed this Lascar. You are acquainted with those East India fevers, I believe? "I am not." Then the counsel on the other side set at me, and I just said, "After what I have told his lordship, I should be unwilling to offer one word that could in any degree influence the minds of the jury." Then the judge says, "But, indeed, this is very strange, sir; we are to look to you for an opinion." "My lord, said I, I am ready to tell you, if you please, the grounds for what I have said to your lordship." "I should be very happy to hear them, sir." So he dipped his pen in the ink, and I spoke deliberately that he might take it down. "In case of death succeeding to injury, the medical evidence goes to prove, that the subsequent death was, or was not, the effect of the preceding injury, by showing hat injury had materially affected parts essential to life. My lord, no evidence of this kind before the court." "Certainly not," he chemical examination of a suspected fluid; and yet there is not, I believe, an individual attending on any of our courts, who is not paid for his time and services, with the exception of such as are engaged in these investigations.*

With this, I conclude what I have to offer on the subject of MEDICAL EVIDENCE. Some of my suggestions may appear rash and speculative—others may be condemned as the result of ignorance. But if they elicit discussion and lead to improvement, I shall not have addressed you in vain.

Before taking leave of you, a brief notice of our medical annals during the last and present year, may not be improper.

I have the pleasure to state, that in compliance with the request of the society, made at its last meeting, the regents of the university have conferred the honorary degree of doctor of medicine on the gentlemen then nominated by us. This act deserves and doubtless receives your cordial thanks. You will also recollect that a delegate was appointed to attend a proposed medical convention at Northampton. I regret that

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said, and I was dismissed. Now I did not tell them that there was no evidence before the court on which the jury could found an opinion, but that was the construction they put on it; and they said, "Why, if Mr. Abernethy cannot form an opinion, we cannot;" and as justice always leans to the side of mercy, the accused individual was discharged. But it is a very awful situation in which you are placed; and if you were to say, a blow from a marlin-spike would not kill a Lascar, you would say a very outrageous thing. Many of those Lascars have been killed with a box of the fist, which a boxer here would laugh at. They are what they call a *nash* sort of people, very susceptible of injury; and if you were to say the blow had killed him, the other man's life would be in jeopardy, though perhaps he had done nothing but what he was perfectly justifiable in doing. Then, I say, I would not give an opinion in a court of justice; but if a juryman asks you a question, you must answer; you should try, of course it belongs to you to try, not to let his mind be too much prejudiced by the evidence in relation to the fatal point."

* Smith on Medical Evidence, p. 29. By a late decision in England (Severn v. Olive) the expenses of experiments to elucidate or determine points in disputes cannot be allowed in costs. This (says Dr. Paris) may be a check to prevent intelligent practitioners from attending.

illness in his family prevented his attendance. Lastly, among the transactions of our last session, was a petition to the legislature, requesting that body to decide on the validity of diplomas, granted by other states to individuals pursuing their medical studies in schools within this state, not authorised by its laws. The regents, to whom the subject was presented, accorded in the necessity of an enactment, and the legislature, by large majorities, passed a law declaring them invalid.

When the passions and feelings of the present day shall have subsided, the justice of this law will be acknowledged by all. It will be even a matter of surprise that the right of a state to say who shall practise within its borders, should ever have been invaded, and particularly by the incorporations of a commonwealth, which most effectually prevents all similar encroachments.

During the adjourned session of the legislature held last autumn, the laws relative to the medical profession came before them in a revised form. With the details of those that were enacted, you are of course acquainted. As an individual, and I of course speak thus in all I may say, I beg to congratulate you on their adoption. They are calculated to elevate the character of the profession, and if mildly but efficiently administered, must conduce to the public good.* I forbear saying more on them, as the subject is still before you in a deliberate form. I cannot however do wrong in adding, that most of the provisions have from time to time been suggested by our society, and it would certainly seem proper that they be submitted to the test of experiment, before they be again changed.

It will afford you pleasure to be informed that our state medical institutions have each increased in the number of their students since the winter of 1826-7, and that their prospects are flattering, provided they be not denied the countenance of the state. Forming part of the great system of education, which, in regular gradation, ascends from common schools to the highest literary and scientific instruction, they are with great propriety subjected to boards of control and trusts, and regulated by the ordinances of those boards and the public laws. In return, the state has directed that attendance on the lectures delivered in these institutions shall form one of the requisites for obtaining a licence, and also that the regents of the university may confer the degree of doctor of medicine on such as comply with additional and more onerous requisitions. Thus you observe that the state has granted privileges to these institutions, founded by itself, but has guarded against their abuse, by organizing various bodies to supervise them. The legislature, emanating from the people, elect the regents of the university—the regents appoint the trustees and professors of the respective colleges. The students attending these colleges cannot obtain a licence without returning to the great body of the profession, represented by the county medical societies, or the medical society of the state—nor can they procure a doctorate, without appearing before the regents of the university, and proving their compliance with the laws of the state and the ordinances of that board.

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* The Medical Profession in this state is under a deep debt of gratitude to Dr. Elial T. Foote, a member of the legislature of 1827, for his unwearied exertions in procuring the passage of the above law. I bear this testimony with the more pleasure, as, in common with many others, his character and conduct have been made the subject of foul-mouthed slander.

Certainly this system is properly guarded, and most undoubtedly it does not infringe on private rights. All and every one, both in and out of the profession, who feels himself qualified to engage in lecturing on the various branches of medical science, may freely undertake it—"There is none to molest him, or make him afraid." But as yet the state has not broken in upon its system of medical education. It has not yet granted state privileges to institutions not directly amenable to the various supervisory boards, emanating from its authority. If such should be the case hereafter, we may safely predict, that although the state colleges will be the first victims, the success of the others will be but ephemeral. Causes on which I need not enlarge may for a few years buoy up the institutions that are independent of those restraints, which for twenty years have been deemed wise and salutary, but they must fall. They will fall from internal dissention. They will fall, because the public will learn that unlicensed freedom ends in licentiousness.

In giving these views, I hope I have addressed you with the respect that is due to my situation and to yourselves. I have not introduced attacks on private character, or on public bodies. I would not impugn the motives of any, who might differ with me, merely because they so differed—nor would I be so illiberal as from this place to insult individuals who are of course precluded from reply or vindication. I do not mean to be misapprehended or misunderstood, nor do I wish to say any thing which it may be necessary on some future occasion to explain.

There is but one point, on which I may be misjudged, and for which I must beg your indulgence. It may be asserted that I am too interested to be a competent judge. Be it so. It is but natural that those who have most at stake should be the earliest alarmed. Individuals however are mortal—they pass away and others fill their places. Institutions should be permanent. In a state which like New-York has earned and wears a proud wreath of civic glory, all must breathe the aspiration, THAT HER PROGRESS IN SCIENCE AND LITERATURE MAY BE COMMENSURATE WITH HER EXERTIONS, AND LASTING AS HER UNRIVALLED REPUTATION.

ART. II. *Observations on Apoplexy and Hydrocephalus.* By JOHN R. RHINELANDER, M. D Demonstrator of Anatomy in the College of Physicians and Surgeons, New-York.

IN several subjects which have been brought into the Dissecting Room this winter, I have observed, especially in those who have died of phthisis and disease of the intestines, great turgescence of the vessels of the brain, and also much water in the ventricles. In the last annual report of the city inspector, two hundred and thirty-two are stated to have died of hydrocephalus, an estimate far too great for the number of deaths, which were in all five thousand one hundred and eighty. When we consider the various diseases which simulate affections of the head, it cannot be a matter of surprise, that the brain, which participates so largely in the morbid action of every part of the system, should be considered the seat of the malady. The public journals of this country and Europe teem with cures of this affection, although the declaration of Dr. Baillie, of London, should at least have taught these aspirants for fame some caution how they committed their reputation in opposition to the most experienced, that there is not "a diagnostic of the disease." In investigating the pathology of hydrocephalus and apoplexy, it will be made to appear, that there is great probability for the belief that pressure arising from accumulated fluid or extravasated blood, does not occasion death so often as is generally supposed——that they may exist without impairing the function of the brain; and lastly, that water in the brain, usually denominated hydrocephalus, is in most instances a healthy action set up by nature, to restore the powers of this viscus, and to prevent the rupture of its blood vessels.

The circulation in the head, for the prevention of rupture of its blood vessels, is better guarded than in any other part of the system. It is provided with an osseous crust, which almost entirely protects it from atmospheric pressure; the vessels themselves have tortuous courses, so that its force may be retarded; the veins open into the sinuses in a retrograde manner, and they have grooves in the bones for their better security; the sinuses are triangular, and are always on the stretch, so that they may resist completely any force applied to them. The ventricles, for an explanation of the use of which, we are indebted to Doctor Carson, perform a most important office in this arrangement. The contents of the cranium must at all times be the same. If one of its portions, blood vessels, water in the ventricles, or substance of the brain, is diminished, one or both of the others must be increased to prevent a vacuum. But it is said the brain is incompressible; also the water in its ventricles: the blood, therefore, must be maintained in equilibrio, and derives great strength and security in its passage through every part of this organ. If then both the brain and water in its ventricles be incompressible, can the blood be abstracted in any way? Dr. Pring bled animals to death, and always found the vessels turgid: hence it follows, the quantity of blood must always be the same, although there may be more blood in one part than in the other from some exciting cause. This proposition has an important bearing upon practice, and will be hereafter applied.

Dr. Munro contended that the brain was incompressible—that is, the ultimate particles which compose the brain would, under any pressure, occupy the same space. He deduces this opinion from the fact, when there is much fluid in the ventricles, an absorption of the brain takes place.

To this it is replied: if this were entirely true, atmospheric pressure would have no influence upon the circulation, to the fallacy of which our own feelings testify. We know if the pressure of the atmosphere is great, the bulk of the brain must be decreased, for we are more excited, which must be by a greater quantity of blood, which is consequently the stimulus. The mean of these opinions is probably correct.—The brain must possess some elasticity for the better government and control of the circulation, and as far as our sensations will give us evidence, it is somewhat affected in its bulk by the pressure of the atmosphere, but in a very slight degree. Yet it must be nearly incompressible, as the means of protecting us from those changes which must occur in either affections of mind or body. Whether it has the power of renovation, or is governed by the same laws which extend to other parts of the body in its diminution or increase, is as yet unknown.

But it is ascertained that the brain has diminished, either from absorption or compressibility. The arteries must expand to fill up a vacuum which must be induced, or some process must be instituted in other parts of it, to supply the deficiency. The ventricles appear to perform this office. If there had been no ventricle, the blood vessels would have been entirely unable to bear the pressure upon them by loss of substance of the brain. We often find ten ounces of fluid in the ventricles—sometimes thirty ounces; if the blood vessels, in addition to what they contained, had received so much, their coats must have given way, or had they sufficient expansibility to contain it, there would have been an incapacity to perform their functions. "Hence, says Carson, we readily perceive the important use of the ventricles. By becoming the receptacles of a mild fluid, they, in certain circumstances, prevent the blood vessels being over distended. By their greater or less expansion, they become the grand regulators of the circulation in the head. Water in the ventricles in such circumstances, instead of being considered a disease, is in reality the great remedy provided by nature for the preservation of life, in situations in which it could not otherwise exist. It is the defence set up by nature for the protection of the breaches or weak points which may exist in this part of her works." This view will lead us to consider what pressure the brain can sustain without producing those symptoms usually supposed to arise from it. Experiments on living animals and post mortem inspections will constitute the basis of inquiry.

* M. Serres selected an old dog for his experiment, as apoplexy occurs in the decline of life. He trepanned the middle part of the cranium over the superior longitudinal sinus, and introduced a very fine bistoury so as to perforate the sinus, and stopped the external opening to confine the effused blood to the interior. The dog was then let loose: he ran about the room trying to make his escape. Three hours afterwards he appeared so little altered, that it was doubted if an effusion had taken place. On opening the cranium, a very large clot of blood was found in the great inter-lobular scissure, and another, somewhat less, upon the left hemisphere. These experiments were repeated upon young dogs, rabbits, and birds, with the same result.

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* Cook on Palsy, p. 256.

He tried the effects of forcing blood into the ventricles. He cut down into the ventricles. The animal for about a minute was affected with vertigo, but through the day and night there was no somnolency. On examination, one ounce and a half of effused blood was found in the ventricles, and the great interlobular scissure was filled with blood.

He next perforated the substance of the brain, and brought away two drachms of substance, but no somnolency or difficult respiration ensued. A clot of blood of the size of a nut was found in the lobe.

He concludes, from these experiments, "that effusions of blood do not produce apoplexy, whether lodged between the cranium and dura mater, or between the membranes and the brain; whether they occupy the great interlobular scissure, and thus lie upon the corpus callosum; whether cavities made in the fore, the hind, or middle part of the hemispheres, or quite through them both; or finally, whether piercing through the corpus callosum we penetrate into the ventricles of the brain and fill these cavities."

M. Portal performed experiments somewhat similar with a different result; and Sir Astley Cooper trepanned a dog, and detached the dura mater in a circle from the inner table of the skull, to the extent of half an inch. He then pressed on the dura mater so as to depress it about one-fourth of an inch, and the dog exhibited no signs of uneasiness. He then pressed half an inch, and the animal exhibited great signs of uneasiness; and, as he increased the pressure, laborious breathing came on. This experiment is evidently defective, as well as M. Portal's. Would the same results ensue had the pressure been lateral? Recent inquiry is against this conclusion.

Besides, the pressure from above and below was altogether indirect, for he does not prove that force applied to the cerebrum was the cause of the difficulty, any more than that it extended to the medulla oblongata, which, in all probability, it did. We know that lateral pressure has no effect; but the least action against the upper part of the spinal cord is very injurious, if not instantaneously fatal. Had this pressure been made upon a part of the brain, where it could not in any way have reached the corpora olivaria, our conclusion would have been widely different. The experiment is at least incomplete.

The experiments of Le Gallois and Fleurens strengthen M. Serres, and entirely disprove the opinions of Portal and Cooper. Le Gallois says, "If we open the head of a young rabbit, and cut away by slices the whole of the brain and cerebellum, the animal will continue to respire; but if we comprehend in the section, the organ of the eighth pair of nerves, respiration suddenly ceases." From this it is evident that no pressure upon the brain proper and the cerebellum can be the means of suspending life, but that the spinal cord must be affected either by direct or indirect pressure, before symptoms of stertorous breathing ensue. But physiology has further instructed us that the life of the trunk does not derive its principle from the brain, but the spinal marrow, though the brain and spinal marrow are both necessary to its continuance. If the spinal marrow sustains any severe injury, the circulation instantly ceases. It then follows that the brain does not maintain that important influence it is supposed to exert, and consequently it cannot be the means of destroying life so suddenly as we are led to believe. Is it not extraordinary that we can cut and slice it, and no sensation is conveyed, yet if a small effusion of blood ensues in its substance or on its surface, we should have all the fatal terminations of apoplexy? Analogy is certainly against the conclusion, and we think dissection will still further disprove it.

But in these experiments of Cooper and Portal, it required the brain to be depressed nearly to half an inch before the animal exhibited the effects of it. Now to make this pressure, what is the force required—equivalent to what weight? This is not stated; it certainly must have been many ounces, if not pounds, to displace this organ half an inch. But we often find an extravasation of less than half an ounce said to be instantly fatal. There is no rule as to quantity: very often a small hæmorrhage is found after death, seated in a part of the brain where no pressure could have been injurious.

We now pass to the dissections. The imperfect manner in which dissections are performed, should make us receive with great caution all post mortem examinations, except from the hands of the most experienced. A perfect knowledge of healthy structure is absolutely necessary to understand morbid appearances. Wenzel was so satisfied of this, that whenever he examined the brain of an epileptic person, he always provided himself with a brain that had not been subject to the disease.

The time of dissection is all important, as the following statement by Dr. Davy will prove:

" Immediately after death, before the body has lost its heat and flexibility, the heart and arteries, as well as veins, are full of blood, which is fluid as in life, and every part may be considered nearly the same as it was before the fatal event took place."

" If several hours be allowed to elapse before the examination of the body is made—for instance, from twelve to sixteen hours, new appearances will present themselves. . Little blood will be found in the great arteries; coagulated blood, or polypi, will be found in the auricles of the heart. The viscera will be found more or less turgid with blood, especially the lungs and the lower part of the viscera; the peritoneal covering of the gall bladder, and the adjacent parts of the liver and intestines, will have assumed a dark greenish hue."

If more time elapses, the serous and mucous membranes in general, will appear red and inflamed, especially in those parts most exposed to the action of the heart and arteries. The serous effusions into the *cerebral* or pectoral cavities will be more or less tinged with blood. There is an " appearance of inflammation, in consequence of the exudation of bloody serum." These false appearances are so exactly like the true, that in many instances, he doubts if the most experienced anatomist would be able to distinguish between them. " I have made trial with medical friends, by asking their opinion of parts that had been closed by immersion in blood, and without the least hesitation, they have pronounced them strongly inflamed."

Brichteau observes—" Sometimes the most intense inflammations do not leave after death any trace of their existence."

M. Serres examined one hundred cases of apoplexy; twenty-one were simple and seventy-nine were complicated. In sixteen of the first description there was serous effusion in the ventricles and circumvolutions of the brain. In one there was a sero-sanguineous effusion, in the left ventricle; in two there was a similar effusion between the tunica arachnoidea and pia mater upon the two hemispheres, and in the other two no effusion could be found. In all these cases the brain was sound, but the *meninges* were impaired. Whenever the substance of the brain was disordered, there was always paralysis.

Dr. Baillie examined one case where there was no extravasation, but merely a turgescence of the vessels.

The morbid appearances observed in the brain in apoplexy are blood, pus, serum, hydatids, tumours, organic lesions, polypous concretions, ossifications, and exostoses.

We shall now inquire to what extent pressure may exist, without impairing the functions of the brain when it arises from some of the above causes. The following case shows that an organic disease of the head may be manifested during life only by functional disorder of the stomach.* Delpech, Gaugiran, and Naudin were present when the body was opened. Four or five fungous vegetations were seen to spring from the upper part of the dura mater, and opposite to them were seen corresponding fossæ or depressions in the parietal bones. On the anterior superior part of both hemispheres, there was a morbid adhesion of the dura mater and arachnoid. From six to seven ounces of serum were found in the left lateral ventricle, and between four or five ounces in the right. The sinuses and vessels of the brain were gorged, as if injected with blood. This patient had never complained of his head until the day he died. The pain then was excruciating, but he exhibited no symptoms of apoplexy, and was treated for dyspepsia.

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* Journal General de Medecine.

Dr. Cooke relates the case of a gentleman who fell off his horse and struck his forehead, and was taken up insensible; he recovered, and afterwards died of inflammation of the brain. A large coagulum of blood was found upon the anterior lobes.

In the Med. and Chir. Review for January 1827, a case is related of a man, who was received into the hospital for a fracture, from which he recovered. On the eve of his departure he suddenly expired. His dissection showed evidence of chronic inflammation of the arachnoid. The pia mater was infiltrated with serous effusion, and more than four ounces of water were found in the ventricles. No symptoms during life indicated the existence or progress of such a disorganization.

M. Serres states that serous, sero-sanguineous and bloody effusions have been found, without any symptoms of apoplexy preceding death. The disease has been cured, although the effusion has remained after death.

It is well known that in hydrocephalus, the bones of the head begin to separate before the disease is discovered. The pressure requisite to separate the bones must be very great, and yet the brain does not feel its effect.

I examined the brain of a child, at the request of Dr. Jos. M. Smith, who died of well-marked hydrocephalic symptoms. The ventricles contained from six to eight ounces of serum tinged with blood. The mind had exhibited no signs that effusion had taken place. On the contrary, the intellect was sharpened, and the memory especially very strong. There was no coma or stertorous breathing.

In the London Medical Repository for April 1825, there is the following extraordinary case of depression and effusion. The boy was nine years old. He was wounded in the head by a small poker, about half an inch in diameter; it remained upright until it was withdrawn. He exhibited no severe symptoms, and continued to improve for six days after the injury. There was a slight paralysis; but the day he died "he was running about the ward, and rejoiced that his leg was quite recovered."

Dissection discovered a perforation situated about half an inch above the squamous portion of the temporal bone, in the left parietal bone, and about a quarter of an inch from the coronal suture. The opening on the outer surface was completely circular; but upon sawing through, and removing the skull-cap, the inner table of the skull was found driven in, in three or four separate portions, and pressing upon the brain. There was also a considerable deposit of coagulated blood on the dura mater, for several inches round the opening through which the instrument had passed. Perpendicularly slicing the brain, exposed the passage of the weapon through the substance of it even into the thalamus.

Cases might be multiplied, but the inference is just, that extravasated blood, depression of bone, or water in the brain, are not the immediate causes of sudden death, or that they do not even produce coma, stertorous breathing, or loss of the intellect. If effusion was the exciting cause of disease, its presence would always maintain it; but it is well known that apoplexy has taken place, the patient has recovered, and afterwards died of some other disease, the effusion still remaining. The following dissection of Mr. Saunders, who had suffered repeated attacks, is in point: upon examination, several streaks of coagulated blood were found in the pons varolii, and in the cerebellum, the colour of which was so different from recent extravasation, as clearly indicated that they had been long effused. Dr. Abercrombie observes, that coma and other symptoms in hydrocephalus, are not to be considered as the direct effect of effusion, but of that morbid condition of the brain of which the effusion is the consequence; and Dr. Condet says, "cases with all the symptoms of hydrocephalus, are met with which are fatal, and in which no effusion is found." It appears then very improbable, that a cause can produce opposite effects; for coma has supervened with or without the presence of water. Whenever there is water in the ventricles, if it exerted this power, the pressure in the fourth ventricle would affect the upper part of the spinal chord, and difficult respiration would take place.

From these cases, it would appear that extravasated blood in most instances, is not sufficient to arrest life in the sudden manner generally supposed, and that water in the brain cannot be considered the proximate cause of disease when all the train of symptoms which it is said to produce, can occur without its presence. There must be some other cause acting upon the coverings and substance of the brain itself.

In one hundred cases of apoplexy, which M. Serres examined, the meninges or the substance of the brain were affected. The quantity of effusion depends upon the nature of the inflammation. If it be chronic, it will be great; if very acute, there will be none at all. But the disease may occur from aneurism of some of its vessels, producing great extravasation, and death instantly ensue. This may be from the stimulus of distention being suddenly removed, occasioning collapse. We observe the same in removing water from the brain by puncture, or on discharging too much in spina bifida; in the sudden evacuation of dropsy of the abdomen. I do not say that extravasation never destroys quickly by pressure; but from the fact, that large quantities of blood have been discovered upon the brain without disturbance of its function, it must be a more rare event than symptoms would lead us to suppose.

As far as we are able to judge, there is a specific irritation of the brain, which manifests itself during the periodical revolutions to which the body is subject. M. Portal mentions the case of a woman, who constantly experienced convulsions just before the accession of the catamenia. That disease was more liable to return at stated periods than others, was so apparent, that the ancients believed the celestial bodies had great influence.

It is very evident, that epileptic attacks occur without any previous warning, assuming the very worst form of apoplexy.

Dr. Cheyne says, "from the 12th of May to the 19th of August, I was called to nine cases of apoplexy, and the summer was the most sultry I ever knew; and as far as I know, the only quality of the season upon which this disease depends, is extreme heat." Great cold, as well as excessive heat, is considered an exciting cause of the disease. In the first, the expansion of the fluids is supposed to produce it; and in the second, the retreat of the circulation to the internal parts of the body. But it has been shown, that the brain is incompressible, and that it admits of no more blood at one time than the other, and therefore it could be effected by neither.

If this view of the pathology of the brain be correct, the practice to be deduced from it is, 1st, the use of moderate bleeding; 2d, counter-irritants; and 3d, active purgatives.

Dr. Cheyne says, "two pounds of blood ought to be removed as soon as possible after the attack, and if the first bleeding has not been of service, and the disease is unequivocally established, the chief question to be decided, is the additional quantity of blood to be drawn. It ought to be known, that from six to eight pounds of blood have been taken from a person by no means robust, before the disease which ended favourably, began to yield." If the repetition of bleeding as advised here, be practised, the system becomes so prostrated, that should the patient be so fortunate as to escape, some other disease will be induced. If we bleed until some impression be made upon the disease as it is called, we shall in all probability seat it more firmly. The experiments of Dr. Pring, as before stated, prove it to be impossible to diminish the quantity of blood in the head. If the system loses such a vast quantity of stimulus, debility principally falls upon the venous circulation, and the pressure is actually kept up by it. But this excessive blood-letting is productive of another injurious tendency. Complete syncope is often induced and the bleeding is continued, mistaking the effect for the cause: re-action from exhaustion. As soon as the patient recovers a little, this re-action shows itself in accumulated blood about the right auricle and ventricle, which cannot evacuate themselves; the blood cannot be transmitted through the lungs, on account of impeded respiration; the jugular veins become turgid and the face is livid; the carotids throb, and there is beating in the head. Bleeding is again urged, and the case terminates fatally, and dissection shows the distended state of the vessels, which causes the attendant to regret, that depletion had not been carried to the extent demanded by the urgency of the case. Dr. Seed bled animals to death, and found in almost all instances, effusions of serum, and even blood in the brain. This, no doubt, is the reason we see so many histories of apoplexy. If examination shows serum or extravasated blood after death, it is always imputed to disease, and not to the lancet.

It appears proper that bleeding should be carried to an extent sufficient to take off the distention of the vessels, and restore the circulation to its equilibrium. Dr. Fothergill says, bleeding in apoplexies is one of those operations, which, on several accounts, requires the most dispassionate consideration. In no disease is the judgment of the prescriber of more consequence to the patient." If apoplexy be a simple distention of the vessels, or if it be a congestion in one part of the brain, the evacuation of blood should not be large. It is so difficult to determine between re-action from exhaustion, and irritation of the brain, that the utmost circumspection is necessary. It is safer to rely upon active counter-irritants upon the bowels and skin.

It seems to result from the preceding investigation, that the brain is incompressible or nearly so; in consequence of which, the blood in that organ cannot be sensibly diminished—that effusions of blood, serum, and water, do take place without impairing the functions of the mind—that no pressure upon the cerebrum or cerebellum produces any sensible impression—that it is the indirect pressure upon the spinal chord that gives rise to difficult respiration—and lastly, in a practical point of view, these deductions will lead us to avoid those excessive bleedings, which are the cause of confounding apoplexy with re-action from exhaustion, which these large evacuations bring on; and in the treatment of hydrocephalus, as there is no symptom which can positively inform us when effusion has taken place, our endeavours shouldbe unremitted in the continuance of means, even when the case is apparently hopeless. They will also cause us to be on our guard against those transmitted irritations, which are so frequent, so deceptive, and so embarrassing, and give close circumspection to diseases of the bowels in children, as the brain is almost always the first to be affected sympathetically, producing irritation, and at last disease of that organ.

Art. III. *On the Nature of the Compounds, usually denominated Chlorides of Soda, Lime, &c. With Remarks on their Uses as Disinfecting Agents.* By Lewis C. Beck, M. D. Professor of Chemistry in the Vermont Academy of Medicine.

The chief design of the following communication is to inquire into the nature of those compounds which have been called, as I conceive improperly, *Chlorides, or Chlorurets of Soda, Lime, &c.* As tributary to this object, I shall also notice the manner in which these compounds are obtained, and their mode of operation as disinfecting agents.

Preparation.—There is nothing peculiar in the preparation of the compounds under consideration. All that is necessary is to subject the hydrates or solutions of potassa, soda, lime, and indeed any of the fixed alkalies or earths, to the action of a current of chlorine gas. If, instead of these, we pass a stream of the gas through solutions of the carbonated alkalies, equally efficient compounds are produced: and we shall hereafter see that other salts may also be employed for the same purpose.

The substance which has received the name of Labarraque's disinfecting liquid, is prepared according to his own formula, as follows:—2800 grains of crystallized carbonate of soda are dissolved in 1-28 pints of water; being put into a glass, two-thirds of the chlorine evolved from a mixture of 967 grains of salt with 750 grains of oxide of manganese when acted upon by 967 grains of oil of vitriol, previously diluted with 750 grains of water, are to be passed into it.*

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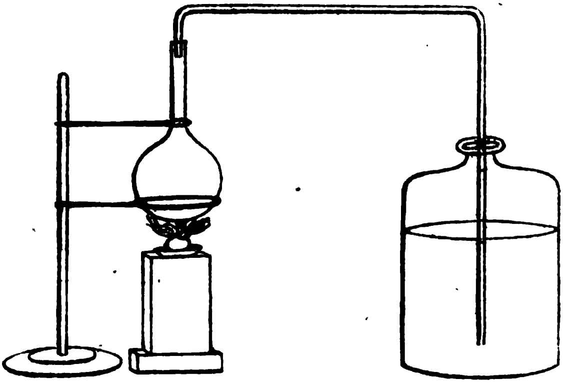
* I quote from Mr. Faraday's paper on Labarraque's liquid in Brande's Journal, New Series, Vol. II. 84, not having the original formula at hand.

The liquid may also be obtained in the manner proposed by M. Payen, which consists in the mutual decomposition of chloride of lime and carbonate of soda. But this method will seldom be employed, as all the valuable purposes of the article can be attained by the employment of the compound of chlorine and lime alone. This is now so extensively employed in the process of bleaching, that there is little difficulty in obtaining it at any time. When it cannot be procured, however, solutions of lime or soda may be easily charged with chlorine gas in the manner represented in the annexed cut.



Into the florence flask introduce manganese, common salt, and dilute sulphuric acid in the proportions above mentioned, taking care that it is not more than a third filled. The bottle may contain lime water, or solution of soda or its carbonate; and should be kept at the temperature of 60° Fahr. or below. Having now adjusted to the flask a bent tube, with one leg passing to the bottom of the vessel containing the solution, the heat of a lamp, or a few coals, is to be applied to the flask. By this means chlorine is evolved, and is absorbed by the solution. The heat should be continued until the evolution of chlorine has nearly ceased, which will generally be from fifteen to twenty minutes. The clear fluid is now to be decanted. This is the disinfecting liquor.

This disinfecting compound may therefore be obtained in either of the following ways:

1. By dissolving in water the common bleaching powder, usually denominated chloride of lime.

2. By passing a stream of chlorine gas through solutions of soda, lime, &c.

3. By passing chlorine through a solution of carbonate of soda, or by adding chloride of lime to dissolved subcarbonate.

Chemical Constitution.—Upon this subject there has been, and still is, considerable dispute. I shall first advert briefly to some opinions which have been suggested, and then offer my own views concerning it.

M. Labarraque, to whom is due the discovery of the disinfecting nature of these compounds, does not appear to have understood their chemical composition, or the manner in which they act upon putrid matters. He, however, calls them chlorides or chlorurets of lime or soda, (*Chlorures d'oxide de calcium, et d'oxide de sodium.*) This name, though without much propriety, they have generally retained.

Dr. Granville, whose paper on this subject is published in a late number of Brande's Journal, gives it as his opinion, that the solution of chloride of soda, so called, is a mixture of dry chloride of sodium and neutral chlorate of soda, with an excess of chlorine equal to twice the bulk of the water employed in preparing the liquid, according to Labarraque's own formula. He infers that no such compound as chloride of soda exists in this liquid, and proposes for it the simple name of *Disinfecting Liquid of Soda.*

In another part of his paper, Dr. Granville undertakes to show that the singular properties of this liquid are owing solely to the chlorine, and in no way to the agency of the salts contained in it.

These views are controverted by Richard Phillips, who contends, that admitting no such compound as chloride of soda exists, the explanation of Dr. Granville cannot apply in the case of chloride of lime. As a proof that the action of chloride of soda does not depend upon the mere gas which it holds in solution, he adduces the fact that it does not, even by ebullition, lose its bleaching property; and that it also retains its power to a considerable extent after evaporation to dryness. He also offers some other objections to the results of Dr. Granville's analysis, which it is not important to detail.*

Upon Dr. Granville's paper, Mr. Faraday remarks—"Unfortunately Dr. Granville has mistaken M. Labarraque's direction, and by passing chlorine to 'complete saturation' through the carbonate, instead of using the quantities directed, has failed in obtaining Labarraque's really curious and very important liquid; to which, in consequence, not one of his observations or experiments applies, although the latter are quite correct in themselves."†

Having mentioned these names, it may be considered presumptuous in me to interfere in the controversy. But it is proper to remark, that the views I am about to offer, were formed long before I was aware that the subject was undergoing discussion abroad, and were matured without particular reference to it. I claim attention to them only so far as they are supported by facts and experiments.

To arrive at correct conclusions concerning the nature of the substances under consideration, it is necessary that we should accurately examine all the circumstances which attend their formation, and the conditions which appear to be essential for this purpose.

The first point deserving attention is, that chlorine will not combine with the oxides of the alkaline or earthy metals, when *perfectly dry*. In the case of lime, this has been abundantly proved by the experiments of Dr. Ure. He states that he exposed dry lime in fine powder to a copious stream of chlorine for four days, but even at the end of that time, the powder had not sensibly increased in weight.‡ The same may be said of the oxides of the other above named metals: I believe it is an established law that they are not susceptible of combination with chlorine, at ordinary temperatures, when both are completely deprived of water. When these oxides are exposed to a high heat, chlorine effects their decomposition; oxygen being disengaged, the chlorine combines with their metallic bases. But these compounds of chlorine and the metals do not possess any bleaching or disinfecting powers.

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* Philosophical Magazine and Annals, Vol. I. 377—78.

† Brande's Journal, New Series, Vol. II. 92.

‡ Chemical Dictionary, 2d edit.

If, instead of employing the dry oxides of sodium, calcium, &c. we take the hydrates of these oxides, or their solutions, and pass through these a stream of chlorine gas, their weight will in every case be increased, and we shall obtain compounds possessed of bleaching and disinfecting properties.

To what then shall we ascribe the difference in the results obtained? The presence of water is the only circumstance in which the cases are not parallel, and we must, therefore, look to this as influencing, in a great measure, the formation of these compounds.

Another fact worthy of notice is, that chlorine, when perfectly dry, exerts no action on vegetable colours, and probably not upon putrid substances, though I am not aware that the latter has been settled by experiment. But water at low temperatures dissolves or absorbs chlorine in considerable quantity; and this solution has the property of discharging vegetable colours, and was, indeed, for a long time employed exclusively in the business of bleaching. This solution, if kept in well stoppered bottles, will retain its powers for a great length of time; but if it is exposed to the air, or if its temperature is raised, chlorine is evolved, and with it all the bleaching powers of the solution are lost.

Having premised these remarks, I shall first notice the combination of chlorine with solution of soda.

When a stream of chlorine gas is passed through a solution of soda, after the manner directed by M. Labarraque, the chlorine is absorbed, and as it is said a chloride of soda is formed. But if additional quantities of chlorine are transmitted through the solution, after variable periods of time decompositions take place, and new definite compounds are formed, which are permanent, and can be obtained in a separate state by subsequent analysis. These changes consist in the decomposition of water, the formation of chloric and muriatic acids, and the combination of these with the soda, forming the chlorate and the muriate of that alkali. In whatever manner these changes are effected, the correctness of the results is sufficiently proved in the ordinary process of obtaining chlorate of soda.

If then chlorate and muriate of soda (when dry, chloride of sodium) result from the long continued action of a stream of chlorine in a solution of soda, the chloride of soda, if it existed at all, must have existed previous to the formation of these acids and their action upon the soda. But as we shall hereafter see, there is, previous to these decompositions, nothing in the compound which could not have been obtained by passing chlorine through water without the addition of soda; much less, is there any evidence of a combination in definite proportions between the chlorine and soda.

If, now, instead of solution of soda, we employ the carbonate of that alkali, nearly the same phenomena will be presented upon the introduction of chlorine. Following the formula of Labarraque we shall obtain his disinfecting liquid, and that, as Mr. Phillips and Mr. Faraday have asserted, without the evolution of a particle of carbonic acid. If this is the fact, and the authority of these chemists is perhaps conclusive upon a matter so easy of proof, it follows that the carbonate of soda remains *entire* in the solution.

But when this process is long continued, decompositions take place similar to those which have been previously mentioned. Chloric and muriatic acids are formed, and these combine with the soda; and, as a necessary consequence, carbonic acid is disengaged.

Desirous of ascertaining whether there was any thing peculiar in the solutions of soda and the sub-carbonate, I prepared a saturated solution of sulphate of soda in water at 50° Fahr. and passed through it from two to three volumes of chlorine. The solution assumed a yellowish colour, and bleached indigo and turmeric powerfully. The same results were produced when I charged, in like manner, a solution of alum. In efficiency, so far as bleaching is concerned, I could discover no difference between the two last compounds and a like solution of carbonate of soda and chlorine.

Let us now pause for a moment. and bring into a narrow compass the facts which have been stated. It has been shown that these bleaching liquids may be formed :

1. By passing chlorine into a solution of soda.

2. By passing chlorine into a solution of carbonate of soda.

3. By passing chlorine into a solution of sulphate of soda; and that too in the case of the carbonate without the disengagement of a particle of carbonic acid, and in that of the sulphate without the separation of a drop of sulphuric acid. Now, as these substances remain *entire* in the solution, if the properties of bleaching and disinfecting which appear to characterize the compounds under review, depend upon definite or chemical combinations of chlorine with the substances held in solution—each of the above must be distinct chemical combinations, though possessing similar properties; and it is probable that a new chemical compound would be formed every time chlorine is transmitted through a different saline solution, and that too without having effected the least decomposition. This absurdity may be avoided by referring these properties to a cause which exists in each, and which is adequate to the explanation of all the phenomena: viz. the absorption of chlorine by the water in each of these solutions.

I am now prepared to notice some seeming objections to this view of the subject.

1. It is asserted by Mr. Phillips that the chloride of soda, as he terms it, retains its bleaching property to a considerable extent after evaporation to dryness. But this does not form an objection to the view which I have taken, unless he means to apply the term *dryness*, in the strict chemical sense. This, however, cannot be the meaning of the author, for I am satisfied that a temperature sufficiently elevated to drive off all

the water, will, at the same time, expel the whole of the chlorine, except indeed so much as is contained in the stable compounds, chloride of sodium and chlorate of soda. This total discharge of chlorine, as we shall hereafter show, is effected by mere exposure to the air, or more speedily by the agency of a stream of carbonic acid, and it would be strange if the heat necessary to drive off all the water should not produce the same result. Yet we should not be surprised, if the evaporation was carefully conducted, that the residuum when *apparently dry*, should still retain a small quantity of water, and that this last holding in solution a portion of chlorine, should exert feeble bleaching and disinfecting powers.

It is stated by Mr. Faraday, that a portion of Labarraque's liquor, prepared by passing chlorine through solution of carbonate of soda, being boiled, gave out no chlorine; "it seemed but little changed by the operation, having the same peculiar taste, and nearly the same bleaching power as before." From this he infers, that the chlorine is nôt in the ordinary state of solution, either in water or in a saline fluid, "for ebullition will freely carry off the chlorine under the latter circumstances."*

Two circumstances are worthy of notice in this experiment, viz.: 1. That no chlorine was given off during ebullition; and, 2. That after the operation the solution retained bleaching powers.

The first of these may be accounted for by a fact stated in a subsequent part of Mr. Faraday's paper, which is, that by boiling this liquid, a part of the chlorine acts upon the alkali to form chloride and chlorate. We should, therefore, expect the disengagement of carbonic acid rather than that of chlorine; but the evolution of chlorine, or carbonic acid, or both, depends upon the time the boiling is continued.†

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* Faraday's paper, as before referred to.

† When this liquid is boiled for a length of time, I am satisfied that chlorine is given off, and that it loses much of its bleaching power, although it *may* be boiled so as not to evolve chlorine.

To ascertain whether the second was peculiar to Labarraque's liquid, I took portions of the solutions of sulphate of soda, and sub-sulphate of alumine and potash, charged with chlorine as before mentioned, and subjected them to heat in glass vessels. After having been heated for five, and boiled rapidly for three minutes, portions were taken out and tested with indigo, and they were found to bleach, although not so powerfully as before. Even after five minutes' rapid boiling, they still had an effect upon the above test. In each of these cases, however, chlorine was given off during ebullition; a fact, arising as I conceive, not from any difference in the state of the chlorine, but in the nature of the salts held in solution.

I am not prepared at present to offer a satisfactory explanation of these phénomena; but it would appear from these and other experiments of a similar nature, that any saline substance held in solution by water, either by increasing its density or otherwise, tends to prevent or retard the escape of chlorine in a gaseous state. For it is freely admitted, that ebullition will completely disengage the chlorine held in solution by pure water. It would be an interesting subject of research to determine whether other gaseous bodies are similarly affected in such solutions.

Before leaving this part of the subject I shall notice one other peculiarity, in which the mere watery solution of chlorine resembles those of the salts which have been the subject of experiment.

It was ascertained by Mr. Faraday, that when a portion of Labarraque's liquor was evaporated by exposure to air, crystals were formed resembling those of carbonate of soda, which did not possess the slightest bleaching power.

Upon exposing to air a solution of sulphate of soda charged with chlorine, for three days, the bottom of the vessel was covered with crystals resembling this salt. But when these crystals were dried between folds of thin paper, and rubbed down in water to near saturation, they had not the least effect upon indigo or turmeric.

A pint of rain water was charged with chlorine until it bleached powerfully. Equal quantities of this watery solution were put into two porcelain vessels of equal size: the one exposed to a temperature of about 25° F., the other to a temperature of between 40° and 45° F. At the end of fourteen hours, a crust of ice, half an inch in thickness, was formed on the surface of the former. This was carefully detached and dried as much as possible by filtering paper at a low temperature. It had a faint smell of chlorine, but when dissolved in water at 45° it exhibited no bleaching powers; while the unfrozen water of this same vessel appeared to have lost none of its efficiency upon indigo or turmeric; nor had the solution from the other vessel, exposed at 45,° at all deteriorated. Portions of these different solutions were now added to equal portions of solution of indigo, with papers of turmeric, and set aside for two days, taking care to preserve an uniformity of temperature throughout the whole progress of this experiment. At the expiration of this time, the dissolved ice had not in the least degree changed the colour of the indigo, but the turmeric paper was slightly reddened: the other solutions were perfectly colourless.

These experiments, as I conceive, warrant the conclusion that the process of free and perfect crystallization expels chlorine, and thus destroys the bleaching powers of these substances. Is it probable that any definite compound of chlorine would be destroyed by this cause?

Passing now to the supposed chemical compound of chlorine and lime, it will be found that the explanations above given and the arguments employed, will also apply.

It has been stated, that dry lime in fine powder, though exposed to a copious stream of chlorine for several days, does not sensibly increase in weight. It may now be added that when chlorine gas is transmitted through the proto-hydrate of lime, there is an increase of weight of 50 to 60 per cent. It is, however, important to remark that this increase is by no means definite, but varies according to circumstances, depending chiefly upon the skill of the manufacturer.

The proto-hydrate of lime is supposed to be a compound of one proportional of pure lime and one proportional of water. This, when exposed to an atmosphere of chlorine, is converted, according to Welter, into a sub-chloride, which, according to him, is composed of

2 proportionals of lime,
2 proportionals of water,
1 proportional of chlorine.

The same chemist asserts, that when the above is mixed with water, it is immediately decomposed; one half of the lime is precipitated, and the other half remains in solution, combined with the whole of the chlorine, and consequently forming a neutral chloride. The sub-chloride is therefore obtained by saturating hydrate of lime with chlorine, and the neutral chloride by dissolving the sub-chloride in water, or by saturating lime dispersed through water, with chlorine.

The experiments of Dr. Ure are at variance with these ideas. He found that the solid residuum of a portion of the powder (sub-chloride of lime?) left on the filter after two successive solutions, contained a notable portion of chlorine, from which he infers that the chloride is but sparingly soluble in water. And he remarks that he never could observe that partition occasioned by water in the elements of the powder, of which Mr. Dalton and M. Welter speak."*

It appears, therefore, that no certain evidence exists that there is in the above case a definite compound of chlorine and lime. All the phenomena presented by this powder can be explained, and all the differences among chemists reconciled, by the adoption of the principles heretofore advanced.

The water contained in the hydrate of lime is essential to the absorption of chlorine, and we have just seen that the amount of chlorine absorbed depends upon the amount of water. Thus, when the pure proto-hydrate is employed, no more chlorine is absorbed than would have been taken up by the same amount of water without the lime. Hence we can account for that apparent partition of the elements of the powder when more water is added; and hence also the reason why the powder thus prepared should be considered as a sub-chloride. But when to the proto-hydrate we add an additional quantity of water, more chlorine is absorbed, for the very reason that more water is present; and the residuum obtained in this case when apparently dry, contains a larger quantity of chlorine than in the former case, when in fact it contains also a larger quantity of water.

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* Chemical Dictionary, 2d edition. The existence of the sub-chloride of lime is also disputed by M. Houton Labillardière.—*Thenard*, 5th edit. Vol. II. p. 474.

The fact stated by Dr. Ure, that the combination of chlorine with the hydrate of lime follows no atomic proportion, and the well known fact that different commercial samples of the bleaching powder contain variable proportions of chlorine, accord with the remarks just made. For with equal care the quantity of chlorine and consequently the efficiency of the compound depends upon the quantity of water, either combined or in contact with the lime.

Thus it is evident that there is a strict analogy in the phenomena presented by the three supposed distinct compounds which I have examined. In each water is essential to the absorption of chlorine; in each the amount of chlorine absorbed depends upon the quantity of water; and in each by exposure to air or to heat, the chlorine is evolved or gives rise to two new acid compounds, which are definite and combine with the bases, forming muriates and chlorates. They are alike possessed of the properties of bleaching and disinfecting,—properties which are peculiar, and which belong also to a simple solution of chlorine in water. Now it is conceived more rational to refer these properties in every case to the same cause, provided this cause is constantly present, than to suppose that they belong to several distinct chemical compounds, as of chlorine and soda, chlorine and the carbonate of soda, chlorine and lime, &c.; and particularly so when, with a single exception, (the oxide of chlorine) the known and acknowledged definite compounds of chlorine, do not possess these peculiarities.

We are therefore forced to the conclusion—

First, That there are no definite compounds of chlorine and soda, or of chlorine, and lime. Analogy would lead us to extend this to all the metallic oxides; and we might hazard the general assertion that chlorine is not susceptible of combination in definite proportions with the metallic oxides, at any temperature, or under any circumstances. For it should be recollected that in consequence of the superior attraction of chlorine for the metals, whenever the oxides are highly heated in contact with it, oxygen is evolved, and a chloride of the *metal* is formed.

Second, That the bleaching and disinfecting powers of the supposed chlorides of soda, lime, &c. depend upon the chlorine held in solution by the water which exists in the hydrated oxides, or in which these oxides are dissolved and suspended. And that the same explanation will apply to the various saline solutions which exhibit these powers.

MODE OF OPERATION AS DISINFECTING AGENTS.—The first correct views on this subject were suggested by Gay Lussac, in his memoir on Chlorimetry, who states that a solution of the bleaching powder abandoned to the air is gradually decomposed; a portion of the lime combines with the carbonic acid contained in the atmosphere, and the chlorine is at the same time disengaged. He also shows that this decomposition is retarded by keeping constantly an excess of lime in the solution. These views have been fully confirmed by the experiments of Gaultier de Claubry, which may indeed be considered conclusive on this point.

A solution of well saturated chloride of lime was submitted to the action of carbonic acid gas. After a few moments there was a disengagement of chlorine, and by continuing the operation for a sufficient time the whole of this gas was expelled. The liquid no longer exerted any action on colours, not even on infusion of litmus. Carbonate of lime was precipitated, which was afterwards re-dissolved in the excess of carbonic acid.

Air passed through a solution of potassa rendered caustic by lime, produced no action upon the solution of the bleaching powder. But when the latter solution was abandoned to the air for some time, it lost its power of acting on vegetable colours, and a precipitate of lime was produced.

The following experiments were performed by M. de Claubry, to ascertain still more directly what takes place during the action of a compound of chlorine on air impregnated with putrid miasmata.

"Air blown through blood which had been left for eight days to putrefaction, and which disengaged an insupportable odour, was afterwards made to pass through a solution of chloride of lime; carbonate of lime was formed, and the air came out without smell, and completely purified by the chlorine.

"The same operation was again commenced, by making the air pass through a solution of caustic potassa before sending it through the chloride; the air came out with a very fetid odour.

"Air was left for twenty-four hours in contact with some of the blood used in the preceding experiment. A portion having been put in contact with some chloride, the disinfection was complete in a few moments, and carbonate of lime was formed. The other part of the air was treated by caustic potash, and afterwards by chlorine; but it retained an insupportable odour."*

From these decisive experiments it appears that the carbonic acid given out by the putrid substance effects the evolutions of chlorine; which last combines with the constituents of the miasmata, and neutralizes them in some hitherto unknown manner.†

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* Ann. de Chimie, Vol. XXXIII. Nov. 1826.

† It is difficult to reconcile with this view of the subject the fact stated by Mr. Faraday, in the volume of Brande's Journal to which I have refer-

An attentive examination of the manner in which carbonic acid causes the evolution of chlorine, will perhaps throw additional light upon the chemical history of these disinfecting compounds.

It has just been stated, that a solution of the supposed chloride of lime, when abandoned to the air, loses its chlorine, and there is produced a precipitate of carbonate of lime. This process, however, requires nearly two months exposure. But the same thing also takes place when we expose two separate vessels to the air, in one of which is lime water, and in the other a simple solution of chlorine. At the end of several days the chlorine of the latter will be completely disengaged, and the lime of the former is converted into a carbonate. Again, a stream of carbonic acid passed through a solution of the chloride effects a decomposition in a few hours, or at least to so great an extent that it no longer acts on vegetable colours or putrid substances; and, at the same time, carbonate of lime is formed. Now the conversion of lime into carbonate, by the contact of carbonic acid, is not remarkable, and the evolution of chlorine is not to be regarded as an evidence of the decomposition of a compound of chlorine and lime or soda.

For the purpose of settling the latter fact by experiment, I charged some rain water with chlorine until it bleached powerfully. On passing through it a stream of carbonic acid, or simply blowing into it through a glass tube for half an hour, the chlorine was so far discharged as to leave the solution without action upon indigo or turmeric. This result I ascribe to the mechanical effect which the passage of a gaseous substance has in bringing successive portions of the solution into contact with the air, and thus facilitating the evolution of chlorine.

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red, viz. That when carbonic acid was passed through Labarraque's liquor of soda, equal to nearly 1300 times the volume of the fluid, very little chlorine was removed, and the bleaching powers of the fluid were but little diminished, though it no longer appeared alkaline to turmeric paper—unless we adopt the opinion suggested at the conclusion of this paper.

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Now when carbonic acid is passed through a solution of the supposed chloride of lime, it combines with the lime and is precipitated in the form of carbonate. There remains then a simple solution of chlorine in water, from which the chlorine is disengaged by carbonic acid, as before stated. But when this gas is transmitted through a solution of soda, carbonate of soda is formed, which is soluble ; and the chlorine is then more difficultly disengaged, for the reasons which have been suggested when noticing the difference in the effect of ebullition upon simple solutions of chlorine in water, and upon various saline solutions charged with chlorine. In this way we can also account for the inefficiency of carbonic acid in removing the chlorine from Labarraque's liquid, as stated by Mr. Faraday. Further experiments seem still necessary to decide, whether the disengagement of chlorine from lime, soda, and carbonate of soda in solution, during the process of disinfection, is effected in precisely the same manner in each.

I have thus attempted to show, that the valuable properties of these substances are owing solely to the presence of chlorine in solution,—that a saline solution is to be preferred merely because the chlorine does not so readily escape and become a source of inconvenience to the operator,—and that, provided we employ a soluble salt, it is not material which one we select for the purpose. Before concluding my remarks, I shall briefly advert to the medical uses of these solutions.

MEDICAL USES.—Labarraque's attention appears directed to the disinfecting nature of these substances, by a prize offered in 1819, by the Society for the encouragement of National Industry in France, for the means of destroying the insalubrity of the workers in the intestines of animals,—for the use of musical instrument makers, and other purposes to which catgut and strings of the same kind are applied. He succeeded so completely in his object, that the prize of 1500 francs was awarded to him in October 1822. Labarraque next directed his attention to the disinfection of corpses, of hospitals, lazarettoes, merchandise in quarantine, and the most filthy receptacles of Paris. The high success which attended his experiments was such, that in 1825, the Royal institute of France voted him a prize of 3000 francs.

The facts stated by Labarraque, and by authority of the Police of Paris, are conclusive as to the great value of these articles as a means of preserving the public health. It is to be hoped, that should occasion require, their value will be tested in our large cities.

These disinfectants are, moreover, particularly useful to the physician. It enables him, without risk or inconvenience, to examine bodies which have been disinterred, when suspicions arise as to the cause of death. A case is related by Orfila, in which a body was examined that had been buried thirty-two days, and in the hottest season of the year. When the grave was opened the odour was insupportable; but aspersions of the bleaching powder soon annihilated the infected odour. A somewhat similar case occurred during the last season in this city. Drs. McNaughton and T. R. Beck were called upon to examine the body of a person supposed to have been poisoned with arsenic. The disinterment of the body, which had been buried four or five months, took place late in the month of May. A highly offensive odour was emitted, which was completely and almost instantly removed by washing the body with the liquid, prepared according to the directions of Labarraque. In such cases, however, it is necessary to guard against the contact of the liquor with the stomach, or such parts or substances as are to be subjected to chemical examination.

In private dissections, and in the prosecution of pathological investigations, the use of these solutions affords the greatest convenience. It may serve as a caution to those who are not familiar with their use to remark, that the chlorine, either during the process of disinfection, or in its passage through the air, combines with hydrogen and forms muriatic acid. To avoid the injurious effects of this acid upon such instruments as are employed, it is necessary that they should be carefully cleaned after use, and removed from its atmosphere.

Lisfranc and Labarraque maintain the opinion that these agents exert a power over the poison of small-pox and measles; and Mr. Alcock, who has written an interesting work on the subject,* asserts—that they have not only the power of destroying the most putrid effluvia arising from animal substances, but also the property when applied to the substances giving off these effluvia, of arresting or destroying the progress of putrefaction; and that it generally promotes the more speedy separation of the dead parts from the living than can be obtained by ordinary means. He remarks, "It very often is capable of changing the nature of malignant, corroding, and destructive sores, into the condition of simple ulcers. In many ulcers, not malignant, it is capable of greatly hastening the cure. In short, though not an infallible remedy, it is capable under the guidance of medical and surgical skill, sound judgment, and experience, of alleviating, and often totally removing, some of the most loathsome and distressing diseases to which the human body is liable; diseases which, too often uncontrolled by remedies previously in use, have hurried numerous victims to untimely graves."

The mode of employing the bleaching powder for the purpose of retarding or preventing putrefaction is quite simple, and may be effected at a trifling expense. It is thus given by Labarraque:

The powder (chloride of lime) is to be dissolved in about 40 parts of water, and thoroughly mixed; after which, the fluid is to be decanted.

With this liquid the entire surface of the body should be freely sprinkled, by means of a watering pot, or in any other convenient manner. This sprinkling should be repeated twice or oftener daily, according to the temperature, degree of putrefaction, &c.

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* An Essay on the Use of the Chlorurets of Oxide of Sodium and of Lime, as powerful Disinfecting Agents, &c. &c. by THOMAS ALCOCK.

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Should putrefaction be far advanced, or the period the corpse is intended to be kept considerable, it is better to surround the body with a sheet moistened in the solution, and to renew the moistening of it frequently. By these means, all putrefactive odour in the apartment will be perfectly obviated.

But as before hinted at, when the corpse is disinterred for judicial examination, particularly where poisoning is suspected, greater caution is necessary. If blood, or any other fluid proceeding from the body, have flowed upon the ground, which may become the subject of analysis, it should be carefully collected; and when this has been done, the disinfection of the ground may be performed by throwing on a small quantity of the solution. During the dissection of the body also, care must be taken that no portion of solution comes in contact with such parts as are to be examined by tests.

For directions as to the manner in which these compounds are to be applied to ulcers, &c. we must refer to the work of Mr. Alcock, before quoted. In general, it may be remarked, that the strength of the application should be so regulated as to avoid giving any considerable pain. From three to six proportions of distilled water, to one of the concentrated solution, will suffice for ordinary use; but sometimes its immediate application undiluted, when the surface is very foul, may be made, not only without injury, but with decided benefit.

ART. IV. *On the Uvularia grandiflora, as a remedy for the bite of the Rattlesnake.* Read before the Albany Institute, Feb. 29, 1828, by J. G. TRACY, Esq. of Albany.

IT has long been known that the Indians made use of a vegetable remedy for the bite of the rattlesnake; but there appears to have been much uncertainty respecting the plant which they resorted to for this purpose, and I believe that no description of it has yet been published by which it can be distinguished.

At the time the boundary-line Commissioners were engaged in the surveys made of the islands near the head of Lake Erie, in the month of August 1820, one of the men in their employ was bitten by a rattlesnake, and Hank Johnson, a hunter attending on the party, was applied to for assistance. This person is a white, whose parentage is unknown. When a child, during the revolutionary war, he was captured by the Seneca Indians in the western part of Pennsylvania, and has since that time remained among them, adopted by the nation, to whom his habits, dress, and appearance entirely conform, and he is now one of the chiefs of that part of the Senecas who reside on the Cattaraugus Creek. In the late war, he attached himself to the forces under the command of General Porter, on the Niagara frontier, and particularly distinguished himself at the battle of Chippewa, and at the sortie from Fort Erie, by his courage, strength, and fidelity: and in the former action, probably saved the life of Major Frazer, who being wounded, was carried by him on his back to a place of safety.

He immediately collected some plants, and gave to his patient a decoction of the roots and leaves; and after chewing, they were also bound upon the wound. No other remedy was administered, and the man recovered.

Soon after this a dog, belonging to one of the party, was bitten by a rattlesnake severely in the head and tongue. Hank was absent at the time, and before his return, some hours after, the animal was excessively swollen, and apparently near dying. The same remedy was then applied, by pouring a decoction of the plant down his throat, and binding the roots and leaves on the wounds, and the dog very rapidly recovered.

On hearing these circumstances related by General Porter, W. A. Bird, Esq. and Major Fraser, and the plant minutely described by them, I had little doubt that it was the Uvularia grandiflora, and collected some specimens of that plant which those gentlemen examined, and all of them pronounced it to be the same plant which had been so successfully used under their observation. Its identity was afterwards still further established by a specimen which it was found General Porter had preserved at the time the cures were performed.

Those persons who are generally acquainted with the plants which are found in the northern states, will agree with me in opinion, that no person of ordinary observation could mistake the perfoliate uvularias for any other plant; and the height of this being described as two feet, determines it to be the U. grandiflora, which alone of the perfoliate uvularias reaches that height.

I therefore think that the concurring opinions of the gentlemen whom I have named, is conclusive proof that the plant I submitted to their examination must be the same with that which was made use of by Hank, and which is the

Uvularia grandiflora—*Smith.*
U. —— lanceolata—*Willdenow.*
U. —— perfoliata β major—*Michaux.*

a plant familiar to every botanist, and very generally diffused.

I am aware that the bite of a rattlesnake is not always fatal, even if the wound is entirely neglected, but there is every reason to believe that the usual remedy was resorted to on this occasion; and at a season of the year when the bite of a rattlesnake is known to be peculiarly dangerous, it is hardly possible that the man and dog could have both recovered without some powerful aid.

DESCRIPTION.

UVULARIA, corolla inferior, 6-petalled, erect; claws of the petals each furnished with a nectariferous cavity. Filaments, very short, growing to the anthers; stigmata reflected, capsule 3-angled, 3-celled, 3-valved, valves septiferous in the middle; seeds many, subglobose, arillate at the hilum.—*Nuttall's Gen.*

U. *grandiflora*, leaves perfoliate, oblong acute; petals smooth within; anthers somewhat obtuse; nectaries roundish.—*Smith Ex. Bot.*

U. *perfoliata* major.—*Michaux Fl.*
U. *lanceolata*.—*Willd. Sp. pl.*

Hab.—Shady hills, in fertile soil, and among rocks: from Canada to Carolina.

It has a general resemblance to Solomon's Seal: leaves alternate, smooth and perforated by the stem, which is forked near the top: bearing one, rarely two, drooping liliaceous yellow flowers early in May.

Art. V. *Cases of Compound Fracture of the Elbow-joint successfully treated without Amputation.* By Alexander H. Stevens, M. D. Professor of Surgery in the University of the State of New-York.

Compound fractures of the elbow-joint, especially when attended with much laceration of the soft parts, have been usually considered as requiring amputation.

The case of a mulatto lad, who had suffered an accident of this kind several years since, first led me to doubt the soundness of this doctrine. His friends refused to permit his arm to be amputated, yet he had an easy recovery, notwithstanding the extensive injury of the soft parts which attended the accident.

I am not aware that the limb has been saved in any case in which there was laceration of the brachial artery, and of the lower extremities of the biceps and brachialis muscles. The laceration of the brachial artery is considered by Boyer as rendering amputation necessary, and the general inference from the opinions advanced and the cases cited in the elaborate treatise of Sir A. Cooper on Fractures and Luxations of the Joints, is also in favour of amputation under circumstances such as I have mentioned. I venture to express the opinion that the laceration of the brachial artery, and generally of the main artery of a limb, does not add to the severity or danger of either compound fractures or compound dislocations: on the contrary, the inflammation is moderated, and the suppuration is less copious than in similar cases where the continuity of the artery is preserved. The interruption to the flow of blood through the main artery has a most powerful influence in moderating inflammation of parts which derive their supply of blood from it; and there is no great danger of mortification when ordinary care is taken to preserve the natural warmth of the limb, and the use of cold washes, especially those containing lead, is avoided. At least I have never witnessed it in some ten or twelve cases which I can call to mind.

Whatever value may be attached to these opinions, the following case would seem to support them, and to show the powers of nature, under very unpromising circumstances.

David Skeen, a robust middle aged man, given to intemperance, but not to an extent sufficient to have impaired his constitution, fell in the streets while intoxicated, and suffered a compound luxation of the elbow-joint. The forearm was flexed upon the arm. The two bones of the forearm having been thrown behind the condyles of the humerus, the coronoid process of the ulna was lodged in the cavity destined for the olecranon process, the head of the radius being thrown behind the outer condyle. The integuments in the bend of the elbow were lacerated transversely to the extent of two and a half inches, the tendon of the biceps and the brachialis internus rent asunder, the nerves stretched before the condyles of the humerus, and the brachial artery torn and projecting from the wound. He was brought to the hospital about seventeen hours after the accident. No considerable hemorrhage had occurred: the lower end of the torn artery was not visible, but the upper extremity could be seen, and still pulsating. Its extremity was contracted to the size of a crow quill, but not pervious. Deeming it prudent to place a ligature at a point where its vascular communications remained, I laid it bare and tied it with a single silk thread, about an inch above the lacerated extremity. The lower lacerated extremity of the vessel was not sought for, and never gave out any blood. Being curious to examine the torn extremity, I cut off about half an inch: the whole of this part, when laid open, was found to be filled with a clot, and the portion nearest the lacerated end was contracted to one half the natural size.

The first attempt at reduction was made by pushing the upper part of the bones of the forearm, from the articular surface of the humerus, while extension was made on the forearm in a fixed position. The ulna was thus reduced, but a repetition of the same process, did not restore the radius to its proper situation. The reduction, however, was readily affected by extension applied to the forearm in an *extended* position; the upper part of the radius being at the same time pushed backward.

After the reduction, the man was put to bed with his forearm fixed at a right angle, and laid across his chest; the wound was lightly dressed with dry lint, or slightly approximated with slips of adhesive plaister; a lotion of spirits and water was applied near the wound, but not low down on the forearm. He was bled to sixteen ounces. He passed a good night after the reduction. On the following day, the fingers were somewhat cooler than natural; the wash was therefore applied warm After a few days a poultice was substituted. Pulsation was first felt in the radial artery, on the third day after the accident. This was continued about four weeks, when the suppuration closed.

No severe symptoms or untoward accident occurred, except the burrowing of matter at the lower part of the joint, for the discharge of which, a counter opening was made by the intelligent House Surgeon, Dr. Cornell; and the formation of a small eschar over the internal condyle. The forearm was kept immoveable at right angles to the humerus, with a view to induce anchylosis, as the power of flexion would be lost, in consequence of the rupture of the brachialis, and the tendon of the biceps.

From the time of the accident until his discharge from the hospital, was a period of eight weeks; a very slight degree of flexibility of the elbow remained after the cure; but the power of the flexing and extending the hand and fingers was as good as ever.

ART. VI. *Case of Nyctalopia.* By JOHN WATTS, JUN. M.D. one of the Physicians to the New-York Hospital.

JOSEPH CORRIE, a seaman, born in Norway, aged 30 years, of middle stature, stout and muscular, says he has enjoyed good health; his countenance, however, is expressive of anxiety and disease. He was admitted into the New-York Hospital on the 27th day of January, 1823, on account of nyctalopia, or night blindness, for which he could assign no cause, being perfectly well at the time of its occurrence, which was about six months previous to his admission. At that time he was on a voyage from Russia to France, and at sunset, while engaged in reefing topsails in a gale, he was suddenly deprived of sight, and since that time he has regularly experienced the loss of vision on the approach of night, being unable to distinguish any thing whatever without the aid of a very strong light. He can see the blaze of a candle, but describes it as appearing like a ball of fire, and is incapable of distinguishing the wick. There is but little mobility of the pupils of his eyes, the iris contracting with a remarkable degree of slowness; his pulse is hard and frequent, and there is occasionally some increase of excitement at night. He sometimes complains of pain in his head, particularly about his forehead and temples, and says that there are appearances of half moons revolving around his eyes during the day, and that they are more apparent in cloudy weather.

Cupping glasses were applied to his temples, sixteen ounces of blood were taken from the arm, and active cathartic medicines were administered, and persevered in for several days, without any apparent benefit. Blisters were then applied to his temples, and he was put on the use of calomel and opium morning and evening; and in about three weeks his mouth became affected: no improvement, however, having taken place, his medicines were directed to be stopt.

March 3d.—The patient now coming under my charge, twenty ounces of blood were taken from his arm, and a solution of salts and tartar emetic was given to purge him freely through the day. Blisters were applied over his forehead, and he was kept under the continued influence of tartarised antimony. On the 5th, two days afterwards, he again lost twenty ounces of blood, the medicine had operated very freely, and he began to distinguish objects which were before perfectly invisible. The appearances of half moons which he formerly complained of revolving around his eyes, were sensibly diminished, annd he was put on the use of digitalis, beginning with fifteen drops, three times a day. At the expiration of two days, on the evening of the 7th, he was again bled to the amount of sixteen ounces, after which he could tell the hour by a watch: previously to the bleeding he could not distinguish the hands of the watch. A dose of calomel was administered to him at bed-time. For two days he continued to improve, and all the crescentic appearances, excepting one, vanished from before his eyes, and this was more dim than usual.

On the evening of the 10th, three days afterwards, it was again necessary to bleed him, and after losing 20 oz. of blood, he could see to read common size print. Blisters re-applied to the forehead and temples and his other medicines were all continued. On the following day, being cloudy, objects appeared to him as if seen through a mist; he complained of headache, and shaking his head briskly produced a sensation of something rolling about within it. In the evening he became excited, and was bled thirty eight ounces, and immediately afterwards could recognise a person at the farther end of the ward, and could see distinctly enough to read small print by candle-light. He continued his medicines, and increased the doses of digitalis; but as he soon again complained of headache, and his eyes now became watery, the lids adhering together in the morning, he was bled on the 14th, three days afterwards, to twenty ounces, and continued to feel better for the two succeeding days, until the 17th, when he felt considerable pain in the forehead, and between his eyes, accompanied by vascular excitement, all of which subsided with the abstraction of twenty ounces of blood.

As his vision was not yet uniformly distinct, and he was occasionally liable to some excitement, attended with head-ache, he was directed to take an emetic of ipecacuanha regularly every morning. This he continued to take, at the same time using the salts and tartarised antimony, and one hundred drops of digitalis daily, until the 2d of April, when he was discharged, with an appearance of high health, and an augmentation both of flesh and strength, having lost nearly 180 ounces of blood, and abstained as much as possible from the use of food.

Art. VII. *A Case of Protracted Indigestion, simulating other diseases, and finally cured by the Oxide of Bismuth.* By Daniel L. M. Peixotto, M. D.

Although I have adopted the term indigestion, in the caption to this article, to designate the following case of disease, it has been rather from accordance with general usage, than from a belief that gastric derangement is the essential, or even the principal feature of this or of similar affections. It may with far greater propriety be referred to that more comprehensive class of affections, which have been so happily grouped together by Dr. Marshall Hall, under the general appellative Mimosis. The characteristic traits of these are a general morbid affection, combined with a great and multiform variety of topical symptoms, the predominance of one or other of which produces a close imitation of other diseases widely different in their nature. Dr. Hall observes of this class, that "they have been variously, and perhaps too exclusively, attributed by some authors, to a state of derangement in one or more of the chylopoietic viscera; and, by others, to an unequal and undue distribution of the blood, by which a state of arterial excitement, or of venous congestion, is induced in some particular organ." Into their pathology, however, Dr. H. declines entering. But are we not warranted by an accurate analysis of the cases of disease described by him, to refer them to one essential cause; and that cause, a general disturbance of the balance of the nervous power, or of the excitability of the system?

I am aware that the fashionable doctrines of the day almost exclude the idea of disease ever affecting any other than the sanguiferous system, and that locally, or confined to a particular organ. Thus, in the cases under consideration, inflammation, whether acute, or sub-acute, or chronic, but still inflammation is always deemed sufficient to solve the whole mystery of those proteiform disorders, hitherto termed nervous, hypochondriac, or hysteric. But will a cautious examination of all the symptoms, studied carefully in their origin, progress, and termination, and more especially of the causes and treatment, of these affections, confirm this simple and ingenious, but as it appears to me, very delusive hypothesis? Nay, more, will post-mortem examinations, on which so much reliance has been affected by its supporters, bear them out in their views? Will these not rather demonstrate that the most serious disorganization may have been slowly taking place during life, while there have been few or no previous urgent symptoms of disease; and, on the other hand, that the most afflictive sufferings have not been accompanied with proportionate, or even corresponding changes of structure, discoverable after death, in the organs supposed to be principally affected? And moreover with respect to post-mortem examinations generally, it is no more than truth will warrant to observe of them, that they are at all times a fallacious test of correct reasoning in relation to the essence or nature of particular diseases, as they are frequently the results not of the principal disease itself, but of some other disease, with which it may have been accidently complicated; frequently the products of death not of disease; and at all times subject to much doubt and suspicion, according to the varying optics of theorists or speculative anatomists.

Setting these then aside, all the other considerations referred to will evidently point out the nervous system as being the especial seat of these disorders, and the unequal and fluctuating distribution of its influence to different organs, as the immediate cause of the numerous forms with which they are endued. That arterial excitement is frequently complicated with these diseases, nay, even excited by them under particular predispositions, cannot be denied. This very fact, however, sufficiently establishes the independent existence of the two affections. Above all, the treatment which is found to be most effectual in mitigating or entirely removing these complaints, even when most severe, puts an end at once to the supposition of their being always dependent on, much less, identified with phlogosis of the stomach, or of the digestive membranes.

It will, however, be freely admitted, that in all cases in which the nervous system is deeply implicated, the digestive organs, and especially the stomach, must participate not inconsiderably in the general sufferings. And this is explained in part, by the great supply of nerves with which these organs are pre-eminently enriched ; and in part, by the very powerful sympathies, especially subsisting between the stomach and the brain.

Should the following case fail in elucidating these few remarks, it is hoped, that it will prove sufficiently interesting as confirming the benefit to be derived from the use of a medicine, somewhat neglected of late, and very undeservedly condemned by the exclusive theorists, to whose erroneous views of the class of diseases in which its use is particularly indicated, I have briefly referred.

Mrs. H. aged thirty-four, of a light complexion and delicate habit of body, was first affected, three years ago, with a series of morbid symptoms highly distressing to herself, perplexing to her physicians, and obstinately resisting every method of treatment. The earliest symptom, and one which continued to the present time, was nausea and vomiting in the morning, after rising from bed, preventing all indulgence in breakfast. When this symptom first occurred, the patient supposed herself to be pregnant, but in this idea she was soon undeceived, no suppression of the menses following, nor has this function been at all interrupted throughout her complaint. Shortly after the establishment of this symptom, she observed an occasional stricture in her chest, especially after an indigestible meal, with frequent cough and viscid expectoration. These latter symptoms were at one time so urgent, that she was bled and blistered therefor, but without relief. She next experienced a pain in epigastrio, which induced a southern physician, after examining her case, and considering it to be hepatic congestion, to salivate her freely. This operation, at all times painful and distressing, proved especially so to her, and finally aggravated all her sufferings. The mesenteric glands were next supposed to be affected, and an appropriate treatment was pursued without success. She had latterly been ordered an emetic, which had very much increased her distress.

The following was her condition when I examined her:— Her pulse was about one hundred in the minute, but soft and compressible, conveying the idea of irritation. It differed, however, according to exercise of mind or body, easily quickened by motion or thought, and as easily lowered by rest.— The breathing was natural, and unattended with pain or stricture in the thorax; ascending the stairs, however, rendered it short and uneasy; the same effect was produced by indigestible aliment; and after a heavy supper, or exposure to damp air or cold feet, asthmatic paroxysms were frequently induced, especially during the night. Cough would then be troublesome, and it was only relieved by expectoration.— The matter spit up was viscid and frothy. Her mind was in general serene, but easily influenced by external circumstances, such as the weather, company, &c. The nervous system was excessively irritable; frequent tremor, particularly after exercise, with a tendency to perspiration, especially on the forehead, neck, and breast; fluttering at the epigastrium, and palpitation of the heart, not uncommon; headache, like the clavus hystericus of Sydenham; watchfulness; incubus.

The countenance was sallow, dark livid areolæ surrounded the eyes, a clammy moisture hung on the cheeks, and the lips were exangueous.

The tongue presented its papillæ enlarged, the edges indented by the adjacent teeth, which were encrusted with tartar. Fauces were very apt to feel dry.

The stomach was very irritable; it regularly rejected its contents every morning after first rising from bed. These contents were a frothy spumous water, occasionally mixed with bile. This morning sickness was evidently of a periodical nature, and added much to the misery of the patient. After it was over the stomach seemed to regain its strength throughout the rest of the day, and retained whatever was eaten.—The appetite was precarious, capricious, and variable. Beer was almost the only article the patient relished, and the only one from the use of which she perceived some relief. There were occasionally wandering pains about the cardiac orifice, but no tenderness on pressure in any part of the hypochondriac region.

The bowels were generally unaffected throughout the day, but after a few hours sleep the patient was nightly aroused by a call to the water-closet, and, as in the morning, the vomiting periodically returned, so she was nightly wasted away by a copious diarrhœa. The discharges were watery, dark-coloured. and offensive, and frequently as numerous as twenty in a night. The skin was in general dry—extremities apt to be either very cold or glowing hot. The urine was scanty, but always limpid and clear. The catamenia were regular.

The muscular strength was much impaired; great emaciation and loss of weight had taken place.

Towards the close of the disease there was a bloatedness of the face and integuments, which very much alarmed the patient and her friends, inducing a suspicion of the existence of a dropsical effusion. As the more important symptoms of the disease had, however, begun to yield, this was not specially attended to, and it gave way along with the removal of the disease.

Such was the condition of my patient, and so aggravated had her sufferings become from its long continuance, and so exhausted her patience, that she abandoned all hope of relief. Her life was literally a burden, and it was with doubt and uncertainty I undertook to administer to her. Profiting, however, by the want of success which had attended all previous attempts, and carefully analysing all the symptoms of the case, I determined upon the following indications.—First, to excite a new and powerful action in the general system, which might tend to equalise the distribution of the nervous influence, and restore tone to the parts rendered languid by the long duration of the disease. Second, to obviate particular symptoms. The first indication was to be accomplished by tonics. The second by astringents, and a diet and regimen regulated according to contingencies.

The tonic of which I made use was the oxide or subnitrate of bismuth, in pills of from three to five grains each, mixed with gum tragacanth, and repeated thrice a day. The bitter infusion was also taken. At first the bismuth produced very unpleasant impressions upon the brain and nerves. These were allayed by the intervention of gentle laxatives, and obviated by giving a less quantity of the bismuth. The astringents used were kino and Dover's powder. It is unnecessary to enter into minute details of the treatment; it is sufficient to state the result. In two weeks the vomiting was entirely checked, in three the diarrhœa, and in six weeks she had regained her health, and began to recover flesh. She is now perfectly well, and weighs twenty-five pounds more than she did during the summer; a certain test, according to Dr. Marshall Hall, of perfect recovery.

It will be perceived, that in this case no active purgatives, no leeches, nor emetics, nor even a particle of mercury was used.

ART. VIII. CASES IN MORBID ANATOMY.

CASE I. *Disease of the Stomach, Pancreas, and Liver.* By HENRY SCHENCK, M. D. of Lebanon, Pennsylvania.

THE characteristic symptoms of diseases, however well-marked and recognised generally, are nevertheless discovered to have been deceptive occasionally, upon post-mortem examinations. Whenever such cases occur in the practice of a physician, and permission can be obtained to institute an examination after death, he cannot, in my opinion, render the profession a greater service than faithfully to narrate them for publication in some medical journal. A conviction of this kind has prompted me to relate the following case.

In the spring of 1827, Dr. P. Jordan, of this place, was attacked with symptoms unequivocally denoting dyspepsia; and although every remedial agent had been tried, and every dietetic precaution observed on his part, yet the disease appeared to increase in severity, and to bid defiance to every attempt to arrest its career.

In June last, he suffered much from distention of his abdomen from flatus, which daily came on in paroxysms, and continued but for a short time, during which his respiration was impeded. The distention of the abdomen, it was supposed, occasioned the difficulty of breathing, by lessening the dimensions of the thorax, thereby interrupting the respiratory functions. The hepatic system appeared to be free of disease, and the intestines were generally in a soluble condition. About a week before his death, which happened on the 3d of July, his stomach rejected every thing that was taken into it, and save the vomiting, there was no other indication of his complaint being gastritis.

In short, it was now believed that it was a scirrhus affection of the pylorus, which was beyond the reach of human skill. The irritability of his stomach was such, that the liquids, food, and even the medicines calculated to allay it, never remained longer with him than an hour at furthest, when they would be rejected. This continued to the hour of his dissolution. Permission being obtained, on a post mortem examination the *villous coat of the cardiac portion of the stomach* was found to have suffered much by chronic inflammation, the *pancreas* somewhat indurated, the *right lobe of the liver* much enlarged and thickened, and nearly a quart of serum in the cavity of the thorax. In the case of Doctor Jordan it was impossible, from the symptoms, to suspect so many organs to be affected by disease. The almost incessant vomiting would have indicated the existence of inflammation of the stomach, but as the pain of which he complained in the epigastrium was always relieved by pressure ; as he was free of fever, and as his prostration of strength was inconsiderable, the disorder with which he was afflicted was confidently supposed to be a scirrhus affection of the pylorus rather than gastritis. He never had any pain in the region of the liver, and he could lie with ease on his left side, so that this organ was believed to be sound, and as his dyspnœa only existed and continued during the distension of the abdomen, it was attributed to the latter circumstance. It may, perhaps, be proper to remark, that his habits of life were correct and exemplary.

CASE II. *Disease of the Uterus.* By JOHN W. GLONINGER, M.D. of Lebanon, Pennsylvania.

IN diseases of an obscure and protracted nature, physicians, upon autopsical examinations, frequently find themselves to have been mistaken in their pathological views. Hence the necessity and importance of such examinations. The salutary tendency resulting from them to humanity ought to be a paramount consideration with relations and friends ; but, on the contrary, the practitioner has very often, unfortunately, to contend with their prejudices, which form an insuperable obstacle to the consummation of his desire to discharge his duties for the benefit of the living.

The subject of this communication, Mrs. B———, at the time of her decease, was 44 years of age. Ten years ago in a state of pregnancy, and when advanced a little beyond the fourth month, she received a fall in descending a flight of stairs, which caused an abortion. From this period her health became impaired, and she frequently complained of pain in the hypogastric and lumbar regions. Her abdomen began to increase gradually until the time of her demise, when it really was of a prodigious size. She had frequent miscarriages; and when not pregnant, her catamenial visitations were very irregular as to time and quantity, and in the interval she was much troubled with a leucorrhœal discharge, and occasionally with dysuria.

The physicians whom she had consulted, considered it an *ovarian affection*, and upon an examination per vaginam, it evidently appeared that the ovarium on the left side was very much enlarged by disease. She tried every means that had been suggested by physicians of celebrity, but all appeared to be only palliative, as her situation daily became more alarming and distressing; and her death no doubt was accelerated by her having placed herself under the care of a vile pretender of physic, who purged her every other day for several weeks in succession, and, to cap the climax of his ignorance, prescribed medicines for the expulsion of a *tape-worm*, with which he confidently asserted she was afflicted. This treatment, as was to be expected, occasioned great debility, and she died hectic in January last.

Upon a post-mortem examination, I found in the abdominal cavity nearly *two gallons of pus;* the uterus, in a *scirrhous state*, of an enormous size, extending a little beyond the umbilicus, and occupying chiefly the left iliac and lumbar regions. The cavity of the uterus was entirely obliterated, and its substance very much thickened and indurated, and upon weighing it, a few ounces were only lacking of *seven pounds*.

Both ovaria participated in the disease, as they were somewhat larger than usual, and the fallopian tubes had a cartilaginous appearance.

Art. IX. *Effects of Venesection in Abdominal Dropsy, supervening on a suppression of the Catamenia.* By Robert Bayard, M.D. of Nova Scotia. Communicated by Dr. Watts.

Miss Eliza R——, aged 17, of a delicate constitution, and slender form of body, the daughter of a respectable farmer, was for a long time subject to occasional indispositions, which were referred to irregular menstruation, for which aloetic cathartics and tonics were given, according to the urgency of symptoms.

Nov. 23d, 1820.—I was first called upon to visit her, in consequence of a tumefaction of the abdomen, which was tense and evidently fluctuating. At this period the swelling was uniform, and equal in size to a pregnancy of the fourth month. The patient, however, at times imagined that one side was more prominent than the other; exciting a suspicion that the collection existed within the ovarium. The bowels were costive—urine scanty—pulse quick and feeble—appetite much impaired—the body emaciated—the countenance pale—strength reduced—the breathing somewhat oppressed in the horizontal position—skin dry—the catamenia have not appeared for several months. Her menstruation has always been somewhat irregular, both as respects time and quantity. From the history of the case and symptoms, I immediately resolved on the propriety of treating it as a dropsical affection; although I was not satisfied whether the disease existed in the ovarium, or whether the effusion was within the abdominal cavity. I put my patient under a course of cathartic and diuretic remedies; viz. pulv. jalap, c. sup. tart. potass, 1 oz. pro dosi, repet. mane et vespere ad alv. plen. solut. An emetic was previously given, with a view to rouse the action of the absorbents. After the cathartics had operated freely, a mixture of ether nitros, c. ol. junip. was given, and the bowels kept purged with aloetics, as best calculated to irritate the rectum and uterine system. The abdomen was rubbed with the ung. antimon.; and the acet. scill. was given both as a diuretic and expectorant, to relieve a severe cough, which threatened phthisis pulmonalis.

Dec. 29th.—The symptoms continued to increase, as well as the size of the abdomen—the medicines were continued—the muriated tincture of iron was given as a tonic and diuretic also. An effervescent mixture was given to relieve vomiting, which occurred at times partly from the irritation of the medicines and partly from constitutional derangement.

Jan. 4th.—The symptoms began to show some abatement, and the abdomen, which was kept swathed, began to reduce in size—the urine increased in quantity—and there was hope that the case was going on to a favourable termination, when from omission in taking the medicines, the symptoms returned more obstinately, accompanied with very violent cough.

Feb. 1st.—The former plan of treatment was resumed as vigorously as the state of the stomach and system would admit; but it appeared to give no relief—the ether nitr. c. ol. junip. was omitted, and the sal. diuretic was given in doses as large as the stomach could bear. The kali ærat. saturated with vinegar, was also given. The cathartics were also given at intervals, as before prescribed—and large doses of nitrous ether, with as much cream of tartar in powder, and gin punch acidulated with the cream of tartar as the stomach could bear. The abdomen still gained in size, until it equalled that of the ninth month of pregnancy. My patient as well as myself, began to despair of success; and as she grew very weak, I discontinued her medicines. I may observe, that during her former treatment she had been several times electrified. On making farther inquiry into her case, I was told, that occasionally a few drops of blood distilled from her nose, notwithstanding the pale, sharp, emaciated appearance of her countenance; and I observed an indolent tumour of a phlegmonous character on her face and hands. I was led to grasp at this as a favourable indication, with reference to the cause of her complaint. I was led to hope, if I could alter the action of the intestinal absorbents, or rather increase it, and check that habit which the exhalents had acquired, I might arrest the further deposition of water, and trust to the vis medicatrix naturæ for the removal of what was present; and bearing in mind that power inherent in the constitution, of supplying its deficiencies from the loss of blood by an increased exertion of the chylopoietic viscera, I determined to put their energies to the test.

April 5th.—Notwithstanding the debility of my patient, I bled her. When the bandage was put on her emaciated arm, the flaccid vessels filled themselves tardily; and indeed the vein appeared more like a blue streak beneath the skin than a full tube. I withdrew four ounces of blood: it was very dark, and came away but faintly over the orifice. I desired my patient to be put on a generous diet. I gave pills of myrrh and aloes as relaxants, and of the extract gentian as tonics.

April 11th.—My patient felt no inconvenience from the bleeding. Abdomen, which before was gradually increasing, has not enlarged any more: appetite still very bad. On applying the bandage on the arm, the vessel fills more readily. I again withdrew six ounces of blood; it flowed more freely, nor did it produce any fainting or unpleasant sensation. I left a mixture of the nitrous acid; but as it occasioned nausea, it was discontinued. The ærated kali and acid. tartaric was given as an agreeable beverage. Laxatives were given pro re nata.

April 19th.—My patient seems manifestly better; the abdomen, which was before tense, is now flaccid and smaller; the blood-vessels on the arm appear fuller and tense, swelling quickly on the application of a ligature. The countenance is more lively; appetite somewhat improved; pulse quick, but stronger; and my patient, who is naturally of a desponding temperament, is cheered with the prospect of recovery. Statim abstrah. sanguis ad ℥viij.

Third bleeding.—The blood which, at the first bleeding, scarcely ran over the side of the arm, now springs with a full arch.

The compound tincture of benzoin is now given as a warm stomachic.

April 24th.—The tumescence of the abdomen has greatly subsided. The symptoms are all improving.

May 1st.—The swellings diminishing; statim abstrah. sanguis ad ℥viij. Let her take a glass of port wine and bark every day, and use moderate exercise in the open air.

May 8th.—Swelling entirely gone. Patient rapidly convalescent. Statim repet. venæsect. ad ℥viij.

This last bleeding was made as a substitute for the catamenia, which ought to have appeared last week. The bark and wine and laxitives were ordered to be continued.

I consider this case very illustrative of the good effects of bleeding in abdominal dropsy of women, connected with impaired uterine action. I attribute the cure exclusively to the venesection, and shall in future employ it in dropsies of the ovarium, which have hitherto baffled medical assistance. In this case theory and practice seem to correspond By bleeding, the vessels of the intestines are excited to increase their action to supply the deficiency from the loss of blood. An increased proportion of aliment is converted into blood, during which time the exhalation of water is arrested. Before this first effect is lost, a second bleeding renews and increases it, which is continued by the subsequent bleedings. The fluid forming the dropsical collection is not reinforced, and that power in the system which keeps up a constant circulating change in the fluids, removes what has been deposited, while the source of supply is converted into blood. But whatever may be the theory, which is of minor importance, the fact is in my mind clearly established, and I shall give the bleeding all the credit until subsequent experience invalidates it.

Art. X. *Case of Amputation at the Elbow-joint successfully performed.* By J. Kearney Rodgers, M. D Surgeon to the New-York Hospital and the New-York Eye Infirmary.

The violent inflammation which often follows wounds of the larger joints, has deterred surgeons from performing amputation through them; and they have rarely attempted it, except in cases where it was impossible to operate nearer the body.

The operations at the hip and shoulder-joint have often been performed, and I think with such success as may well embolden to further attempts. Amputation at the knee-joint has been performed a few times in Germany with success, and once I am informed in this country.

I am not aware that the operation has been attempted at the elbow-joint, since (as M. Brasdor informs us in the Mem. de L'Académie de Chirurgie) it was performed by Ambrose Paré.

The happy result of the following case induces me to lay it before the profession, with the hope that others may be induced to practise it in appropriate instances.

A stout healthy negro, aged about 35 years, was admitted under my care into the New-York Hospital, November 5th, 1827.

A few hours before his admission, he had received a wound in the right arm, by a musket discharged by a boy who stood not more than twenty feet from him. The radius and ulna were very much shattered, and the hand hung by a few shreds of skin and tendons. He had recovered from the shock so as to give an account of the manner in which he had received the wound. There was still, however, great insensibility to pain.

Having ascertained that there was not enough of the integuments to cover the ends of the radius and ulna, I proceeded to amputate at the elbow-joint. A flap was made of the integuments and muscles of the anterior part of the forearm, by an incision (made by the common amputating knife) reaching from the head of the radius to the inner condyle of the os brachii. Another flap was made from the posterior part, of integuments only. These were dissected up; the scalpel was carried between the head of the radius and os brachii, and then on the anterior part of the joint, between the coronoid process of the ulna and os brachii. The internal lateral ligament was divided, and the knife readily separated the posterior and upper part of the ulna from its connexions. The vessels were readily tied, and the edges of the wound brought into contact and dressed. The stump was not examined until the expiration of two days, when it had completely united, except in the course of the ligatures.* In about three weeks the ligatures came away, and the stump was perfectly sound.

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* There was no fever following the operation, nor any more inconvenience than is consequent to ordinary amputations.

I have several times seen this man since he has returned to labour, and am convinced that the stump is far more useful to him than if the arm had been amputated at the usual place.

ART. XI. *Remarks on Sudden Death contained in a letter to the Editors of the New York Medical and Physical Journal.* By Dr. XAVIER TESSIER, of Quebec.

CASES of sudden death have lately become so frequent, that I was led, sometime since, to turn my attention to this subject, which appeared to me to have been left far behind the rapid improvements made in all the various departments of medical science. I therefore inserted an article to that effect, in the Quebec Medical Journal, Vol. I. in which I offered my opinions, in the hope to draw the attention of the profession to what I considered somewhat neglected, and requested further inquiries. But, after the lapse of two years, I cannot discover that it has been more attended to than before; which I would rather ascribe to the circulation of that Journal being almost limited to Canada, than to the circumstance of its being written in French, the language of my country, and one which, from its scientific usefulness, has become an essential part of a liberal education on this continent, and among all the enlightened nations of Europe.

It is not a little remarkable, that out of the myriads of volumes and pamphlets, with which every minute department of medicine abounds, not one treatise should have ever been attempted, or perhaps thought of, on a subject replete with such interesting consequences, and in which the comforts and happiness of mankind are so deeply involved. Its importance to the science of medical jurisprudence seems also to have been greatly overlooked; owing probably, more to the obscurity and difficulty of the subject, than to a want of conviction of its usefulness, abstractedly considered, in a variety of legal cases.

Immense labours are daily bestowed in researches on the means of soothing the ordinary infirmities incident to our nature; but no attention appears to be given towards averting one, which is the most dreadful of all calamities. I do not pretend to say, that the causes which bring on a sudden death are totally unknown to the profession; but, as they are to be referred to diseases, which, although known to exist in the human body, are, however, so obscure and delusive as to escape the notice of the generality of medical men, their existence is seldom suspected, without the appearance of that train of symptoms by which they are expected to manifest themselves.

Even some of the diseases to which I am about to allude, have not yet been considered a more frequent cause of sudden death, than all others, from which they appear only to differ by their rapid and speedy, but gradual termination. Hence, when a person dies suddenly, without the apparent existence of some previous disorder of a nature adequate to that effect, the physician is at a loss how to account for that event, before he has examined and discovered it by a careful dissection. But, without referring to the prejudices which so often frustrate our expectations of a post-mortem examination, it is of the utmost importance to ascertain the existence of that cause in the living subject; and the means of averting its dreadful consequence will then immediately present themselves, even to an ordinary skilful and intelligent practitioner. For, it may perhaps be said with propriety, in the present state of our science, that a disease once well ascertained and understood, is already half cured. I may also assert here, that my inquiries on this subject have led me to the pleasing conviction, that medicine possesses in a great measure the means of checking their sudden termination, although their entire removal may yet long baffle all our attempts.

I have been induced to avail myself of the opportunity afforded by the recent event which has deprived this state of its Chief Magistrate, in order to submit my ideas to the test of further observations. For, whilst all classes unite to deplore the death of Governor Clinton as a great public loss, our profession, not only as a constituent part of the republic of letters, of which that individual was so distinguished a member, but more particularly as guardians of the lives of our fellow-creatures, feel another interest in the nature of that event, unconnected with any of the political feelings which, as a Canadian citizen, I cannot share in a common degree with his fellow-citizens. As I intend, however, to treat this subject more at length in the French Journal which I am about to publish here, as a new series of the Quebec Medical Journal, I will, for the present, confine myself to recapitulate my ideas on the causes of sudden death, contained in the article referred to, and the course of inquiry which I have adopted in order to arrive at the desired conclusion.

It is now universally allowed, I believe, since the writings of Bichat, that death is the immediate consequence of the cessation of the functions of one of the following organs: the lungs, the brain, and the heart; whilst no other can produce the same result but by means of one of them, and consequently to the whole, through their natural dependence on each other. We know of no disease of the lungs which can bring on a sudden dissolution, without a previous manifestation of symptoms by which it is always strongly marked, and which can ever assume an alarming character without passing through various stages. It is, of course, needless to say that none of my remarks are to be extended to any case of death by violence, poison, or other external causes.

The only condition of the brain which may cause a speedy death, is an accumulation of fluid, bloody or watery, in any part within the skull, occasioning a compression of the brain. This sort of accident constituting apoplexy, and a consequent palsy, particularly in old people, has never been known to produce instantaneous death, which may, indeed, take place in a very few hours, but not without being preceded by the peculiar characteristic symptoms of apoplexy. Such was lately the case with Mr. Emmet. We even know that it is sometimes in our power to rescue the patient from the fatal effects of that compression, by removing or relieving it. I may therefore conclude that the heart alone is the seat of those affections which occasion a sudden death.

This singular hollow muscle has frequently been noticed as the seat of several diseases almost altogether unknown to the ancients; and, strange as it may appear, not much better understood by physicians at the present day, than at the time of Morgagni. Buonaparte's private physician, Baron Corvisart, is the first and yet the only writer who has ever been able to trace the nature of the various disorders with which the heart is liable to be affected, and his description of their character is such, that they ought to rank in our nosological tablets. I am not aware that any disease of the heart has since been observed, which he has not accurately described. The most common of them is called an aneurism of the heart, or a dilatation of its parietes, accompanied with an increase or a diminution of their thickness. This affection generally runs through its course by degrees, and will seldom escape the attentive observer. But, as it is a circumstance almost peculiar to all the diseases of the heart, that the appetite is not impaired, nor the vigour of either body or mind sensibly diminished, nor the functions of the bowels or other organs at all deranged, except that of respiration, which is more or less disturbed according to the nature and extent of the complaint, it not unfrequently happens that the physician will mistake the case for asthma, particularly if the corpulence of the patient be such as to leave some reasonable doubt of at least the possibility of a mechanical impediment to respiration. Hence the disease will arrive at its height, and the patient be carried off suddenly, before the real nature of his disorder is at all suspected.

It is a remarkable fact, and one which we ought constantly to bear in mind, in relation to diseases of the heart, that a complaint, sometimes occasioning but little uneasiness, should be found adequate to a cause of death: that, whilst we are so involuntarily led to calculate the degree of danger according to the severity of the symptoms, we should have to witness that danger in others to be, as it were, in an inverse ratio.

Here, there seems to be but one step between a slight indisposition and an inevitable death. How important is it then to be acquainted with the nature of these complaints, and above all, with their dangerous consequences.

But an aneurism is not the only disease of the heart which can bring on such fatal results, and I am disposed to think it is perhaps the least common cause; for there are others, but particularly those degenerescences of the whole viscus, those excrescences or ossified processes so often found in its substance, in its cavity, or about some of its orifices, existing independently of any constitutional affection or vitiated habit, but, on the contrary, attendant on the most healthy subject; and which are therefore more likely to escape the notice of the practitioner.

The existence of those affections will be detected by a careful attention to the state of the circulation, particularly to the pulsation of the heart, and of the arteries at the wrist and and at the axilla. I will not enter into the detail of those symptoms; they are, or ought to be well known to every practitioner, and easily deduced from the physiology and mechanism of the circulation of the blood; but I would particularly recommend the able description given of them by Corvisart, which will be found of great service to those who may feel disposed to devote their attention to this subject. I may perhaps also observe here, that my own observation does not allow me to place much confidence in the sound of the chest by *percussion*, which, according to that writer, is in most of those complaints, what he calls *un son mât*, so forcibly expressed in the following words, *tanquam percussi femoris.*

One particular circumstance is to be attended to with respect to their treatment, which is, that as their progress, if not their origin itself, is the natural and unavoidable consequence of the performance of the functions of the heart itself, even in the state of health, the least possible deviation from the strict regimen necessary to be pursued, will frequently be found sufficient to counteract the most powerful means which medicine possesses of checking, if not of curing the disease. For example, in an aneurism of the heart, which is by far the most common of them all, those distressing palpitations which occur by *fits*, are to be considered as the natural efforts of that organ to overcome the resistance offered by the mass of blood, which has then become disproportionate to its *diametrical* capacity in the *active* aneurism, or its *physical* and contractile power in the *passive*. Perfect rest of both body and mind, but particularly of the latter, being of the first consequence in these cases, the least degree of excitement, by accelerating the circulation, will bring on those palpitations whereby the disease is increased; and the mischief occasioned by one of those fits is perhaps greater than the relief which can be obtained from the best treatment for several weeks.

Those fits are to be met with in almost all diseases of the heart, and it is generally in one of them that the patient is suddenly carried off. This fact is strikingly exemplified in the case of the illustrious deceased to whom I have before alluded, when, to use the words of his family physician, he suddenly appeared "distressed for breath." I would venture to say that, previous to this struggle for breath, the heart had already ceased beating, in consequence of which the lungs were making efforts to relieve themselves of the blood accumulating in them from the want of its natural outlet through the heart. This fact may be observed in ordinary occurrences in life; for, when in consequence of mental excitement, the blood, leaving the surface of the body, is accumulated in the interior organs, a deep inspiration, *a sigh*, is the means which nature immediately resorts to, in order to afford a free circulation to the blood, by thus increasing the capacity of the vessels. In fits of anger, joy, or terror, if the mass of blood accumulated in the heart is such as to offer a mechanical resistance which it cannot overcome by its contractile power, its motion ceases, and after a few fruitless inspirations, the person drops down dead. Such is the case with those who die in a fit of anger, joy, terror, or grief. Bodily pain has even been known to produce the same result; hence the propriety in persons undergoing painful operations of relieving themselves by their groaning, sighs, crying out, and giving free utterance to their sufferings.

I must confess that our means of affording relief in the diseases I have mentioned, are yet very limited; but, it is possible that, by a more careful attention than has heretofore been given to the subject, we may improve them, or perhaps discover others more effectual. The most powerful which we know of at this day are blood-letting and diet carried to a great extent, but they are evidently inadequate to a cure without some more direct means. Diseases of the heart, however, are more commonly met with in elderly people, and we know that frequent bleedings will dispose them to dropsical affections, without curing the former affections; but, if we can, by that means, avert their abrupt termination, it certainly is the least pledge we can produce to suffering humanity of the utility of our profession, when that deplorable benefit is to be purchased at the expense of a protracted but not less incurable disease.

REVIEW.

ART I. *A Synopsis of the Diseases of the Eye, and their Treatment; to which are prefixed a short Anatomical Description, and a Sketch of the Physiology of that Organ* By BENJAMIN TRAVERS, F.R.S. Surgeon to St. Thomas's Hospital. With Notes and Additions by EDWARD DELAFIELD, M. D. Surgeon to the New-York Eye Infirmary, and Lecturer on Diseases of the Eye. First American from the 3d London edition. New-York, 1825. 8vo. pp. 474.

BY persons more distinguished for their wit, than for either their judgment or candour, the practice so prevalent in this country, of republishing valuable foreign works, with the addition of notes by some American editor, has been made the subject of severe censure and reproach. It has been urged, that while it held out to the editor in this country a cheap and ready way of gaining a distinction which probably he did not merit, it has had a tendency to check the spirit of original authorship, and thus discourage among our own countrymen those labours which would be the most honourable to the general reputation of the profession. We confess that our opinions on this subject have been, and still are entirely different. We have always looked upon the republication of standard foreign works in this country, as a substantial and solid benefit conferred upon the cause of medical science, and we have always considered those who have been instrumental in rendering us this benefit, (whatever may have been the motive,) as entitled to the commendation and gratitude of the votaries of our art. Indeed, we do not know of any one thing which has aided so materially as this in the rapid and astonishing advances which medicine has certainly made amongst us within a very few years past. As far as our observation has extended, it has rather encouraged than repressed the ambition of our original writers; and, even if it had not, we are not sure that the public or the profession would have been materially the sufferers. The extreme sensitiveness in relation to every thing American, which has been so assiduously cherished, has induced us too often to look with a degree of kindness and partiality upon productions which, under other circumstances, would have drawn down upon their authors the lash of severe but merited criticism. Under the influence of this feeling, a general immunity seems to be enjoyed by our writers, and the only contest among our leading journalists seems to be, who shall sing the loudest hosannas to the triumphs of American genius. As might be expected under these circumstances, empiricism has grown bold among us, and the plunderings of encyclopedias, dictionaries, libraries of knowledge, &c. &c. are sure to be abundantly lauded, provided they are only presented under the imposing title of an original production. It is the same general feeling which has given such scope to those small wares of medical literature, denominated *text books*, with which we are at present inundated in this country, and which, for the most part, furnish no other evidence of the capacity of the author, or rather *compiler*, than that he can read and write. Now all this, we humbly conceive, is not very likely to aid substantially amongst us the cause of medical science; and it is high time that some check should be given to a system which is bolstering up the weak, the vain, and the superficial, and which, in an especial manner, is operating to the detriment of the younger members of the profession to a most alarming extent. If our Journalists had independence enough to do their duty, the evil would not long be complained of; but, unfortunately, those of them who make the greatest pretensions, and who undertake to dictate laws to the medical public, are themselves too frequently obnoxious to the very same charge. In the mean time, we do not know of any thing so likely to foster sound and wholesome taste—to encourage deep and solid learning—and to elevate the standard of medical judgment in this country, as to make our brethren here extensively familiar with the rich fruits of foreign thought and learning; and if some name already valued and revered among us, can be brought to aid in extending the circulation of these works, it is only still further enhancing the benefit. Under this view, we have always thought that Dr. Rush, in causing to be republished in this country under the sanction of his popular name and extended influence, such works as those of Sydenham, Pringle, Hillary, Cleghorn and others, did more for the real improvement of the profession, than all his successors put together have done by their boasted "systems" and compilations.

Such being our views, we cannot but look with a favourable eye upon the republication of the work of Mr. Travers. In Great Britain and on the continent, it has long since established a high reputation, and the American edition by Dr. Delafield is greatly improved by the judicious and valuable notes which he has added.

As the original work of Mr. Travers is so generally known, our only object is to notice some of the additions by the American editor, by way of recommending the present edition to the more general perusal of our professional brethren.

Strabismus, with Double Vision.—Dr. Delafield relates two cases of this affection somewhat peculiar. In the first, the double vision continued for a much greater length of time than is usually known to be the case. In general, the double vision gradually subsides, and the squinting eye becomes accommodated to the new direction of its axis. In this case it remained permanent for five years.

"J. G. was attacked six years ago, with remittent fever of extremely tedious and obstinate character, leaving him in a state of debility from which he very slowly recovered. During his convalescence, the right eye began to be affected with strabismus and double vision, which increased until it was impossible for him to look with both eyes without producing pain in the head and confusion of thought. It distressed the patient exceedingly, and kept him in a nervous, irritable condition, which impaired his health, and rendered life a burden to him. Four years after the accession of the disease, he applied to the New-York Eye Infirmary, with a request that the affected eye might be destroyed, in order to put an end to his distress. It was then ascertained that he saw perfectly well with either eye singly, when the other was covered, but the double vision was complete when both were used."

"Another case of double vision has since occurred to me, not unworthy of record. A man received a violent kick upon the cheek, just below the right eye, from a maniac, whom he was endeavouring to secure. The immediate consequence was double vision, but in a vertical instead of an horizontal direction. Every object at which the patient looked appeared double, but the image of one *above* the other. On examination, a firm swelling, caused by extravasated blood, was felt below the eye, deep in the orbit, and it was evident that the organ was somewhat pushed up out of its natural direction. On placing a finger beneath the other eye and pressing into the orbit, the double vision was immediately corrected, by the axis of the sound eye being made to correspond with that of the injured one, while the symptom returned as soon as the finger was removed. The extravasated blood was gradually absorbed, and the patient after a few weeks regained correct vision." pp. 177—9.

Disorganization of the Vitreous Humor, with tremulous Iris.—Under this head we are furnished with the following observations of the editor.

"Disorganization of the vitreous humor, with tremulous iris, although coming on spontaneously, is not necessarily productive of blindness. A young lady, from Vermont, arrived in this city in the early part of last summer, to obtain advice in such a case. The iris was tremulous, the eyeball soft, and readily yielding to pressure, and the lens, having lost its support in the vitreous humor, had fallen through the pupil into the anterior chamber. No severe inflammation accompanied this unnatural situation of the lens, but it was productive of occasional pain, and almost completely destroyed vision by lying in front of the pupil. The lens was still transparent, except at its edges, and although it had remained in this situation several months, was very little diminished by absorption. The other eye having been lost in childhood, from accident, the patient was thus deprived of all useful vision. A section was made in the cornea, through which it was intended to extract the dislocated lens, but immediately upon withdrawing the knife, it passed back through the pupil, and fell below the axis of vision into the bottom of the eye. No inflammation followed the operation, and the patient recovered in a few days. The sight was rendered so perfect, that, with a proper glass, she could read and sew as well as any patient who had undergone the operation for cataract.

"In a similar case the result was different.

"W. D. ———, a shoemaker of this city, wounded his left eye with an awl, about sixteen years before he applied at the Infirmary. The instrument pierced the cornea and lens, which, in consequence, became opaque, and the eye lost its power of vision. It gave him little or no inconvenience, until the day before he came to the Infirmary, when on rising in the morning, he found the eye beginning to be inflamed, with gradually increasing pain, and the lens lying in the anterior chamber. On examining it, in addition to these symptoms, the iris was observed to be tremulous, and the whole organ preternaturally soft. Sight was entirely extinct; the eye not being sensible in the slightest degree to light. It was evident here, that in consequence of the accident, a process of disorganization had been set up in the vitreous humor, which eventually depriving the lens of its support, had allowed it to escape into the anterior chamber. To prevent the dangerous inflammation likely to follow this state of the parts, the lens was extracted through a section of the cornea. The wound healed well, and the eye regained its healthy appearance, but of course, remained perfectly blind.

"Our author remarks, that a tremulous state of the iris may follow the rough performance of the operations of couching, and that by absorption. It is equally true that it may sometimes follow them when performed in the most skilful manner, and be productive of no ill consequences to the patient. In such cases, the tremulous state of the iris is often not permanent, but subsides after the lapse of a few weeks; rather disproving our author's position that it is "*always* connected with a relative disproportion of the vitreous humor," for such a condition of the parts must be unchangeable, and its effect in producing tremor of the iris permanent." pp. 208, 9.

Glaucoma.—This is a rare affection, and is not noticed by Mr. Travers. The deficiency is supplied by Dr. Delafield. This disease consists in a gradual conversion of the vitreous humour into a yellowish green substance, with a partial or complete abolition of vision. By the Germans, this disease is considered as always associated with a gouty diathesis—a position exceedingly questionable. Dr. D. has met with several cases of it, in which no evidences of this diathesis were present.

"It appears to be more consistent with sound pathology, to consider the disease as essentially an inflammation of the vitreous humor, and all the morbid changes which occur, as dependent upon this inflammation for their cause.

"When the disease commences, the patient suffers pain across the eyebrows, sometimes slight, at others excessively severe, and accompanied with a sense of rending and extreme distension. If we now examine the eye, we perceive that there is a change of colour, not immediately behind the iris, as in cataract, but deep-seated in the globe. This, perhaps, is not at first easily distinguished, but in the progress of the disease becomes extremely manifest. By dilating the pupil by means of belladonna or stramonium, and exposing the eye to a bright light, we can see the change of colour very early in the disease. The patient very soon begins to be troubled with specks and motes floating before the eyes, and finds his vision beginning to be seriously impaired. As the colour of the vitreous humor deepens, the sight is more and more injured, although not always in an equally increasing ratio. The pupil gradually becomes more and more sluggish in its motions, until eventually it remains fixed. After a time the lens frequently undergoes the same change in appearance, and assumes also a greenish colour; *cataracta glaucomatosa*, as it is called. It increases also in bulk, fills the posterior chamber, presses upon the iris, and at last pushing itself into the dilated pupil, partly enters the anterior chamber. Eventually the pain subsides; the eyeball begins to diminish in size, becomes atrophic, and sinking into the orbit, the lids entirely close over it.

"When glaucoma has commenced in one eye, it generally, if not always, extends also to the other, if not arrested by remedies; and we will often see the disease in its different stages in the two eyes.

"In its fully formed stage, glaucoma is absolutely incurable; but it may often be checked in its progress: and when only one eye is yet affected, it may sometimes be prevented extending to the other. We cannot restore the transparency of the vitreous humor, but may occasionally arrest the disease, and even improve the impaired vision.

"*Treatment.*—This must be purely antiphlogistic, and in general, similar to what is proper for inflammation of the deep-seated textures of the eye. Local blood-letting, by means of cupping or leeches, frequently repeated, purging, and counter-irritation, perseveringly persisted in, are the proper remedies in the first stages of the disease; together with regulated diet, and rest both of the organ, and the body generally. This treatment may be advantageously followed or accompanied by the moderate use of mercury, in its milder forms, such as Plummer's or the blue pill. Either of these may be used until they slightly affect the system, but not too freely or too rapidly; as the attendant state of the constitution is generally such as not to bear the remedy in large quantities. Under the use of this all-powerful medicine, we are assured, that after the change of colour had evidently taken place, the transparency of the eye has been completely restored, and the patient regained perfect vision." pp. 215—17.

Congenital Cataract.—Under this head Mr. Travers remarks that he "has heard of the complete spontaneous absorption of the congenital cataract at an early age; and, although the eyes had a constant tremulous motion, the person was in after-life enabled to follow useful occupations. I have never seen such a case, but I refer to an instance which is well authenticated." A well marked case of this kind is supplied by Dr. Delafield.

> " A gentleman from Charleston, S. C. brought his child, a little girl 7 years old, to this city, for advice, in consequence of the imperfection of her sight. He described the pupils as having had a white appearance a few days after birth, which after several months, began gradually to diminish, until, before the child was two years old, no trace of it could be seen. In the meantime the child's sight had gradually improved. When brought to me, she could see sufficiently for all the ordinary purposes of life, but not so accurately as to learn either to read or sew. The eyes had the tremulous motion referred to by our author. The pupils looked perfectly clear, and were of a jet black. The case had been repeatedly pronounced amaurosis, and if merely examined independently of its history, might be readily mistaken for it. The history of the case, however, proved decidedly that the child had congenital cataract, which had been gradually absorbed, and thus the power of vision had been gained. Extract of stramonium was applied, and the pupils widely dilated. All doubt was now removed: slight spots of opacity, of a silvery brightness, but very small, and with considerable spaces between them, were seen scattered over the capsules of each lens, and sufficiently accounted for the imperfection of the sight. The parents of the child would not consent to an operation at the time, and the result of the case has not been ascertained." p. 244.

Hereditary Cataract.—A very remarkable instance of this is recorded by the editor.

> " A girl, of sixteen years of age, with congenital cataracts, is now at the Infirmary, and has been operated upon once by my colleague, Dr. Rodgers. Her grandfather, father, and two uncles, with a number of her brothers and sisters, and cousins, amounting altogether to twenty-one, are more or less affected with some degree of congenital opacity of the lens. In several of them it is so slight as not to prevent reading, but in all, the involuntary motion of the eye, so common in congenital cataract, is present." p. 226.

Peculiar protrusion of the Eye-ball.—On this subject we are furnished with the following interesting note.

> " There is a variety of disease, accompanied by protrusion of the eyeball, different from any of those mentioned by Mr. Travers, and depend-

ing upon a different cause. In this case, we observe a gradually increasing and uniform protrusion of the globe going on for a certain length of time, without any change in the texture of the eye, or the appearance of any tumor at its side, but apparently depending upon a simple increase in volume of the cellular and adipose substance at the bottom of the orbit.—It occurs only, as I have remarked, in scrophulous children, whose general health is much impaired. My attention was first called to this affection by a paper of M. Louis in the Memoirs of the French Royal Academy of Surgery, Vol. V. p. 214.

"He there quotes a case from Theophilus Bonetus, of a child of three years of age, whose right eye was almost entirely protruded from its socket. The child was evidently scrophulous, and a tense and swelled abdomen showed the extent of the strumous diathesis. The patient, after having been purged, was for a month put upon the use of tincture of rhubarb.—The eye gradually sunk in the orbit, in proportion as the abdomen decreased in size and tension; and when a healthy state of the abdominal viscera was re-established, the organ had regained its natural situation without any other treatment.

"No modern author, that I have consulted, notices this curious disease; but I have met with more than one instance of it. One case closely resembled that just quoted. It occurred in a negro child of about six years of age, in whom the strumous diathesis was strongly marked. Both eyes were considerably protruded from their orbits. A mode of treatment similar to that adopted by Bonetus, was pursued; and by a long course of purgatives, with other remedies calculated to improve the general health, I eventually succeeded in curing the disease." pp. 245, 6.

Peculiar Species of Ulceration of the Eyelids.

"The eyelids are subject to a peculiar species of ulceration, apparently of a syphilitic character, strongly resembling chancres in appearance, yet probably a symptom of secondary syphilis. These ulcers are very foul, of a white colour, deeply excavated, with hard edges, and having no disposition to granulate. They commence on the ciliary margin, and extend to both the internal and external surfaces of the lid. I have seen them involve the puncta; and in one instance, ulcers of precisely the same character were situated on the cheek and ala of the nose.

"Whatever may be our opinion of the nature and origin of these ulcers, whether syphilitic or not, there is no doubt as to the appropriate remedy. They always require and readily yield under the use of mercury. Any of the ordinary forms of the remedy will generally succeed, but the most appropriate is the corrosive muriate, in doses of a quarter of a grain three times a day; the patient at the same time making free use of decoct. sarsaparillæ. The ulcers may be dressed with the ung. nitric. oxyd. hydr.—Under this treatment, they soon assume a healthy aspect and granulating surface. The result is generally much more favourable than was anticipated; for little or no deformity is left after healing the ulcers of the lids, which appeared to have destroyed a considerable portion of the ciliary margin.

"Almost all the cases of this disease which have occurred at the New-York Eye Infirmary have been in females, and the greater proportion of these negroes." pp. 254, 5.

The foregoing notes are added to the Section of Mr. Travers' work which treats of the "*Pathology*" of the membranes of the Eye.—Under the section which is devoted to *Treatment*, we have an additional number of valuable notes.

Scarifications and Leeches in Simple Conjunctival Inflammation.—On these points Dr. D. makes some judicious observations, in the correctness of which we fully concur.

"Little good is to be derived from scarifications of the conjunctiva, in the mode in which that operation is very commonly performed. If the scarification be not made exactly in the proper situation, so little blood is obtained as to be of no advantage to the patient. On everting the lower eyelid, we may observe about a line within the margin of the lid, a narrow strip of the membrane, exactly parallel with the tarsal border, more vascular than the rest; the vascularity still more conspicuous if inflammation be present. A single stroke of a sharp scalpel drawn along this line, will furnish a large quantity of blood, if the lid be kept everted as long as the bleeding continues. If the scarification be made even a single line nearer the globe of the eye, little or no blood is obtained. The situation meant to be designated is that in which the conjunctiva is firmly adherent to the tarsus; as opposed to the loose portion of it passing from this part to the eyeball.

"In this country, scarifications of the conjunctiva are so constantly practised in acute inflammation of that membrane, that I cannot avoid bearing my testimony against it. In the early part of my practice I extensively used it, and must frankly acknowledge, often did much harm by it. The authority of Mr. Saunders, however, sanctioned by the remark on the subject by our author, ought to be decisive. 'Scarifications,' observes Mr. Saunders, as far as I have seen them employed in the active state of the inflammation, are certainly injurious; they have manifestly aggravated the symptoms; and I conceive it will appear highly improbable that the infliction of mechanical injury on a part already actively inflamed, can be advantageous—a similar practice does not obtain in surgery on other parts of the body. When the activity of the inflammation is gone, the vessels of the conjunctiva that have been engaged in the process, remain preternaturally enlarged. At such time, the division of a great number of them might cause the whole series to contract, and thus accelerate the diminution of the vascularity, and the adhesive inflammation might only produce a degree of reaction, which would then be immaterial. But the condition of the part is widely different during the progressive state of inflammation. At this stage, the wounds of the lancet are only additional stimuli co-operating with the disease, and consequently exasperating the state of the eye.'

"Of the same character as a remedy, as scarifications, we may consider the application of leeches to the palpebral conjunctiva; a practice attributed in England to Mr. Crampton, but long ago recommended in France, by Demours. Mr. Crampton insists upon the utility of the remedy in every stage and species of inflammation which attacks the eye. During the first stages of acute conjunctival inflammation, I have seen it do much mischief, and therefore would think it safer to limit its application to cases of chronic ophthalmia, or at least to those in which the severity of the symptoms had first been reduced by other means. With this caution, leeches, thus applied, constitute a safe and excellent remedy against ophthalmic inflammation.

"The mode of applying the leech is sufficiently simple. Having selected one rather less than the medium size, the surgeon everts the lower eyelid with the fore finger of his left hand, and places the animal in such a manner as to fix itself upon the conjunctiva lining the lid, being careful to prevent its attaching itself either to the eyeball or the tarsal edge. Where the leech fixes itself to the eyeball, it sometimes produces severe inflammation, although no permanent injury is the consequence: on the edge of the lid, it gives great pain, and occasionally several days elapse before the irritation produced by it subsides." pp. 267—69.

Local Applications, &c.—The following note we quote entire, as containing most important advice.

"To avoid doing our patient injury, is certainly of as much importance as to do him good. I shall therefore take occasion, whenever necessary, to warn the student of medicine and young practitioner against the use of remedies, which I know to be common in our country, where they are evidently prejudicial. Of these, one of the worst, in inflammation of the conjunctiva, either simple or purulent, is warm poultices applied to the eyes. I have repeatedly seen young infants brought to the New-York Eye Infirmary, with the corneæ of both eyes sloughed, and the organs entirely ruined, after having been kept under poultices even as long as six weeks without intermission, and the practitioner, perhaps, has not, during that whole period, once examined the patient's eyes. I have now under my care a gentleman, whose eyes were kept constantly under poultices more than a month, where the corneæ are both completely opaque and vascular, and the lids loaded with granulations. I need not say that he is totally blind, and many months will elapse before he recovers his sight. Such cases are by no means uncommon, and their result is a sufficient proof of the impropriety of the practice.

"There is also another common practice which is equally prejudicial; the unnecessary confinement of patients suffering under ophthalmic inflammation, in dark chambers. A high degree of morbid sensibility to light is thus induced, which does not belong to the disease. Inflammation of the conjunctiva, when not modified by struma, is attended with very little intolerance, and hardly even requires the use of a shade; confinement in the dark is never necessary. No better guide can be found than the patient's own feelings: and he should be kept in just that quantity of light which is pleasant and agreeable to him. By an opposite practice, patients are often thus confined even months, until they cannot bear the slightest ray of light in their apartments: and long after the inflammation has subsided, the eyes are still useless from their want of power to bear its admission.

"When the inflammation is more deeply seated, and the superficial vessels of the sclerotic become enlarged, shoot over the margin of the cornea, and involve that membrane in the disease; then, indeed, intolerance of light becomes a marked and distressing symptom; and it is necessary so far to diminish the light of the patient's chamber as to make him comfortable. But even in this case, absolute darkness is prejudicial. A patient deprived of all light in his room, suffers acute and distressing pain at the opening of a door, or any other unavoidable admission of light; whereas if the room be only partially obscured, he suffers little inconvenience from any temporary admission of light.

"Observations so minute as these may perhaps appear trivial; but they are of so much consequence to the comfort of our patients, that they cannot be deemed useless." pp. 272, 3.

Granular Ophthalmia of the Eyelids.—This disease, accompanied with opaque cornea, is extremely common in every part of the State of New-York, but more particularly in the northern counties. It is a consequence of purulent ophthalmia, and its continuance is a very common cause of permanent blindness.

"When such cases present themselves, they are always accompanied with more or less of inflammation. Our first object must be the removal of this inflammation, and before this is effected, all operations are improper. For this purpose, the usual means in common use are sufficient, cupping or leeches, keeping the bowels open by proper medicines, regulating the diet, and removing all sources of irritation. Counter-irritation is, however, our most efficient agent in fulfilling this indication, and should be kept up during the whole course of the treatment. Blisters behind the ears, kept open by ung. sabin. or ung. canthar. may be employed; or still more conveniently, the tartar emetic ointment may be applied to the same situation, or to the nape of the neck. In the recent state of the disease, a due perseverance in these means will often be sufficient to subdue it; and, in all cases, they must be continued as long as inflammation is present.

"If they do not succeed, it becomes necessary to use means for the direct removal of the granulated surface, and the restoration of the conjunctiva to a healthy condition. For this purpose, in mild cases, we may succeed merely by the use of astringent applications to the granular surface; and of these, one of the mildest and most efficacious is the liq. plumb. acet. undiluted, dropped into the eye once or twice a day, or smeared over the diseased surface with a camel's hair pencil. Other astringents are useful with the same view, such as solutions of alum and of nitrate of silver; but neither of them is so efficacious as the liq. plumbi. The ung. hydr. nitrat., diluted with three or four parts of lard, may at the same time be applied to the edges of the lids every day, to prevent their agglutination, and act as a beneficial stimulant to the parts. Counter-irritation should still be kept up either by means of ung. tartr. antim. setons, or issues.

"If the case be more severe, or these means fail, still more active measures must be resorted to. If the granular bodies be large and hard, they should be removed by the knife, as directed by our author, and the operation should be repeated if they grow again, until they are removed as far as possible. As the whole of the disease, however, can hardly be eradicated in this manner, escharotic substances are employed to complete their removal; and of these the sulph. cupri arg. nitrat., and the mineral acids are the best; the first preferable to the other two. In applying them, the lids must be everted, and the sulph. cupri be used; it should be lightly rubbed over the granulated surface; if the arg. nitrat., the projecting points may be slightly touched with it. The part should then be freely washed off with water to prevent the application of the caustic to the eye-ball. When the acids are employed, they should be diluted with three parts of water, and applied with a camel's hail pencil. Sometimes the use of any of these meansexcites active inflammation in the eye; and then all irritating applications must be avoided, and antiphlogistic and soothing treatment employed.

"The use of the knife or scissors to remove the granulations is very rarely necessary, and I believe falling much into disuse in Europe. The sulph. cupri is a better remedy, and generally adequate to the object in view, if perseveringly employed. It may be applied every other day with perfect safety.

"Having succeeded in removing the diseased state of the palpebral conjunctiva, the vascularity and opacity of the cornea generally subside, without the use of any direct remedies for their cure. They are excited and kept up by the irritation of the granular lids, and disappear with their cause. They are removed more rapidly, however, by still persisting in the use of the ung. tartr. antim. The circular incisions around the cornea recommended by Mr. Travers will sometimes quicken the process, but should never be used while any inflammation is present, nor until the palpebral lining is restored to a healthy condition. When employed under these circumstances, they sometimes excite severe inflammation.

"This last remedy the division of the enlarged vessels which overshoot the cornea, is so frequently employed in this country, that it is necessary to make some further remarks with regard to it. Another modification of the same remedy, as recommended by Mr. Ware, the excision of a portion of the enlarged vessels is also much in use among us, and when improperly made use of, is still worse than the first; indeed, if either be necessary, a simple division of the vessels is adequate to every purpose which the remedy is capable of effecting, and is liable to do much less mischief. Mr. Ware's method, therefore, is never necessary; and the other very rarely. Our object should rather be to remove the inflammation which enlarges the vessels, than to diminish their diameters by any operation on themselves. An opposite practice is very often productive of serious injury to the organ, by increasing the inflammation and aggravating all the symptoms. The common error is, to divide the vessels while inflammation still subsists; very often it is done in its very commencement. In severe acute inflammation of the cornea, in ulcers of that membrane with red vessels running to them, and even in common pustular inflammation of the conjunctiva, this operation is very commonly performed, and in every such case, if it does any thing, it does harm. No arguments are necessary to prove the impropriety of the practice in such cases; it is repugnant to the very first principles of surgery, and its employment cannot be justified on the slightest ground. Were I not a daily witness of the mischief arising from the improper use of this remedy, I could not have supposed that what is so evidently wrong, should so often be done. But with this evidence constantly before me, I feel it absolutely necessary to caution the student of this branch of surgery against an operation he will often be advised to perform." pp. 297—9.

Conical Cornea.—To show the effect of removing the lens in cases of this kind, the following is an interesting case.

"A young man from Rhode-Island applied at the New-York Eye Infirmary about eighteen months since, with both corneæ conical and a cataract in one eye. His near-sightedness was so extreme, that he could read with great difficulty. The cataract was removed from the one eye, and with much advantage to his vision. He could see without any glass much more distinctly with the eye operated upon, than with the other assisted by a concave glass of any degree.

"This case tends somewhat to prove the propriety of the plan recommended by some surgeons of removing the lens in cases of conical cornea, in order to compensate for the increased refracting power of the cornea. I have had no opportunity, however, of ascertaining the degree of permanency of the improved vision in this case, as the patient immediately returned home, and I have learned nothing from him since." pp. 311, 12.

Artificial Pupil.—On this subject Dr. Delafield has added important and elaborate notes at pages 374 and 432 to 445; but as much of what is contained in these notes has already been published in a previous number of this Journal, (No. 14) we deem it unnecessary to dwell upon them.

In concluding our notice of this work, we cannot in justice omit an allusion to the mechanical execution of it, which is in every respect superior to the generality of medical publications in this country. The plates especially are exquisitely executed, and do the highest credit to the artists employed.

Art. II. *First Report of the Committee of the Philadelphia Medical Society on Quack Medicines.* Read on the 15th December, 1827, and ordered to be published by the Society. Philadelphia, 1828. 8vo. pp. 37.

We rejoice to perceive that the physicians in Philadelphia are at length aroused to a sense of their duties, and, that following the laudable example of their brethren in this city, have raised their voice against quackery and quack medicines. In no other city of these United States, has empiricism thrived so much, or been encouraged so extensively as in Philadelphia. And lofty as are the pretensions of the medical profession of that city to pre-eminence in science, and whatever relates to the cultivation and improvement of our art, it has been the occasion of great wonder and greater regret, that there should have been found among its most prominent and influential members, individuals, who, forgetting alike what was due to their own reputation, and to the dignity of their profession, so far from attempting to arrest and abate this evil, actually abetted in its extension and propagation, by publicly sanctioning with their names, the use of one of the most imposing, and necessarily dangerous nostrums, ever palmed off upon public credulity. We can scarcely find terms sufficiently strong, to convey our reprobation of such unprofessional, and we will add, mischievous conduct. For what was the unavoidable effect, of the recommendations issued under the name of physicians high in office, and possessing the confidence of the public as practitioners, but the indiscriminate use of an article, administered for quackish purposes, by a notorious and ignorant quack?

This article, in the hands of a skilful physician, or even under the direction of an intelligent and well educated man, might, no doubt, in certain cases of disease, be frequently productive of benefit. It was not to restrict its use, however, that the recommendations published in a well known pamphlet were intended. They were used, and we have every reason to assert, were intended to be used, as passports to the employment by the public of the proprietor of the article, to the necessary exclusion of the only class of men really capable of deciding upon the propriety of its administration in any one given case. It would have been well too, for the professional reputation of the eminent individuals who thus became the patrons of a notorious nostrum vender, if the reasons which had induced them to descend from the elevated ground marked out for them by the strict principles of medical morality, and to glide in with popular clamour and weakness, were at all defensible, even on the ground of momentary delusion. The benefit of this extenuation, they are, however, deprived of, if we can place reliance on the assertions advanced in the pamphlet before us. Take a single instance. At page four we are informed by the committee, that "Dr. Dewees' experience of this article having been found useful, is limited to four, or at most five cases," whereas his own practice, in which he has prescribed it several times, does not, he acknowledges, furnish "*a single case of any decided advantage* following its use." October, 26, 1827. The committee add, "Dr. Dewees does not state the evidence on which he gave his certificate to Swaim; but, it is believed, that not even half of the few favourable results now alluded to, had then come under his own personal observation"!!!

We cannot suppress our astonishment, that the committee should pass over such a statement without a remark. It is true, the fact speaks for itself; and friendly feelings towards Dr. D. may have induced them to be silent. But do they not owe a higher debt to the public than can be possibly claimed on the score of personal considerations by any individual, however elevated his station, and imposing his titles? What! furnish a quack with a virtual license, to vend his nostrums indiscriminately, upon one or two trials of his unknown compound? We recollect seeing it frequently asserted in print, that physicians of the highest merit in other respects, have been expelled from their honourable seats in the profession, for conduct much less unpraiseworthy and dangerous to the public weal than this; and it is with pain we have to add, that other names must be added to that of Dr. Dewees, as equally obnoxious to a rigid but just censure. Dr. Chapman acknowledges having "overrated the value of the Panacea of Swaim, and is in possession of not a few cases, which, *if desired*, are at the committee's service, and eminently calculated to alarm the public upon this subject." It will be perceived that we have underscored the words *if desired*, and our motive must be sufficiently obvious. Can it be possible, that a teacher of medicine, and a respectable physician, after having set his seal of approbation upon the public use of an unknown medicine, shall, after becoming more enlightened upon the qualities of this medicine, and being put in possession of facts, eminently calculated to alarm the public upon this subject, neglect to warn them of their danger —a danger incurred, it is true, on his responsibility in part, but not the less a danger? Did he not owe it to a conscientious sense of duty, if not, to feelings of humanity, to repair a great wrong which he had committed, by undeceiving those who had been ensnared by the magic of his name, and thereby jeopardised in life and limb? And shall the performance of this imperative obligation, enforced by the dictates of natural, no less than of professional morality, be made dependent on the desires of a committee? We feel conscious that we are excited upon this subject, and we are free to say, that we owe it as a duty to the public to be so. That public has been too long deceived and imposed upon, not to be informed of the danger they incur by encouraging a quack, even when a protege of medical men in power. To strengthen this statement, and give the climax to the exposition of professional weakness, which we have felt humiliated, but bound to make, we will simply extract one sentence further from the same page. "It may be well to remark, that Dr. Parke's certificate in favour of the nostrum, was furnished on the strength of a *single* case"! Can it surprise any rational physician that this same Dr. Parke should now utterly denounce this same medicine, on account of the melancholy result of *two* other cases which have since occurred?

Were there no physicians of repute in this city who lent themselves to the mercenary views of the nostrum vender? We wish we could answer in the negative; but the fact, and the pamphlet to which we have alluded, are against us.

It is the object of this report to collect all the information extant among physicians, in relation to the remedial value of the more prominent specifics now sold in Philadelphia; and, of course, Swaim's Panacea receives the greatest share of attention. The committee pursued their investigations in the following order:

1. The sense in which the physicians, who gave their certificates in favour of the Panacea, intend their evidence to be received, &c.

2. The circumstances connected with the introduction of this nostrum into the practice of the Pennsylvania Hospital, and Philadelphia Alms-house Infirmary, and the extent to which it was used, and the effects attending such use.

3. The nature of the general evidence, received from va-

rious sources, respecting the alleged curative, and positively deleterious, operation of this Panacea.

4. The inference deducible from the above circumstance, and the objections to the use of this, as of every other quack medicine.

The first part of the Report we have anticipated in our introductory remarks.

From the second we extract the following narration :—

"The committee, on application to the resident physician of the Pennsylvania Hospital, and to the apothecary of the Philadelphia Alms-house Infirmary, have obtained the following information respecting the time when Swaim's Panacea was first introduced into the practice of these institutions, during what period it continued to be prescribed, and by whom.

"Dr. Charles Mifflin, resident physician of the hospital, reports, that, as well as he can learn, Dr. Price was the person who first directed it, and who attended as surgeon to the hospital in the years 1822 and 1823, four months in each year. Dr. Parke, who was at that time one of the physicians to the hospital, stated to Dr. Mifflin, that he never heard of the Panacea being used in any case in the practice of the house, except in that of R. Tregomain, already noticed. "No mention of Swaim's Panacea," says Dr. M. "is made in our book of apothecary's expenses for those years; from which I would infer that its use in this hospital was very short, and that what was used had been presented for the sake of an experiment, the success of which is shown by its discontinuance from that day." Dr. M. states his having made inquiries of Drs. Hewson, Otto, and John Rhea Barton, gentlemen attached to the service of the hospital; and was informed by them that they never prescribed it in that institution, nor do they know of any other person using it but Dr. Price.

"The cause of Dr. Price's admiration of the Panacea need not be dwelt on at present. It is sufficient to remark, that he went to Europe, in the year 1823, as agent of Swaim, for the vending and distribution of the Panacea. Of the results of this mission the world has not yet been informed.

"Mr. Gerard S. Marks, Apothecary to the Philadelphia Alms-house Infirmary, reports, that, in the year 1822 or 1823, Swaim obtained permission from the managers of that institution to give his Panacea a trial.— The effects of this pretended specific were, to fail entirely in six cases out of eight; and of the remaining two, one was ameliorated and the other cured. Of the whole number, five were of *scrofulous disease*, and three of *secondary syphilis;* in which last it exercised no beneficial tendency. The Panacea produced, after a few days, in the first patient, James Ray, affected with scrofula, a most violent and alarming bowel complaint, accompanied by great emaciation, under which he sank, notwithstanding the discontinuance of the medicine, and the judicious prescriptions of Dr. Parrish. In one of the cases of secondary syphilis, the Panacea seemed to produce temporary derangement; and in a few days after discontinuing its use the patient died. In another, of the same disease, the syrup of sarsaparilla prepared by the apothecary of the establishment, entirely relieved the patient after the Panacea had failed to produce any effect.

"In regard to the quantity of the Panacea used in the Alms-house Infirmary, the committee have learned from Mr. Marks, that from the 30th December, 1822, to the 20th January, 1825, sixty-seven bottles of this nostrum were purchased, at the cost of one hundred and sixty-seven dollars and fifty cents. Since the 20th Jan. 1825, "there has not one drop been purchased for the use of said institution.

"The principal points of difference between the panacea practice, and the regular treatment of scrofulous and syphilitic patients in the Alms-house, are, in the greater number of failures under the former or empirical, and the violent and alarming symptoms following the use of the nostrum. The expenditure of so much money on those hazardous experiments, naturally gives rise to a feeling of regret, that a portion of the sum thus wasted had not been directed to securing to the afflicted patients the benefits of those natural agencies, such as pure country air, and suitable regimen and exercise, which experience has proved are the best auxiliaries to medical treatment; and which are at all times more successful in the hands of the benevolent, for the relief of bodily suffering and disease, than any or all of the inventions of quackery.

"The sum of the Hospital practice is found in one solitary case." pp. 5—7.

On the third head the Committee report facts gathered from the replies sent to their circular, by several distinguished physicians, all of which, however, only go to prove that which might have been naturally expected by every rational man, not blinded by ignorance, prejudice, or sordid interest—that this remedy, like every other powerful one, is capable of doing great harm when injudiciously administered.

The result also tends to confirm the views advanced in the Report of the Medical Society of the city and county of New-York, and the Philadelphia Committee have, with great candour, availed themselves of its valuable results. The following extract is furnished as additional evidence of the correctness of that Report.

"To this interesting statement the committee will add, that when Swaim first began to vend his syrup in this city, in the year 1820, the taste of honey was very perceptible in it, as in the original French preparation; but of late years the syrup appears to have been made for the most part, if not entirely, of sugar. The addition of the winter green serves still more to disguise its taste and the nature of the other ingredients. Had Swaim stopped here, evidence similar to that adduced in favour of the French preparation might have been extended to his; with the large reservations required by his want of knowledge of pharmacy and of medicine, and the continual misapplication of the remedy by a wrong selection of cases; but, in an evil hour, the plan of mixing corrosive sublimate with at least certain parcels of his Panacea was adopted; and ignorance, vexatious before, was then armed with an instrument of mischief and destruction.

"It must be familiar to most medical men, that a certain portion of corrosive sublimate can be suspended in vegetable syrup, and so blended as to defy detection by chemical analysis: and it has been ascertained that the Rob de l'Affecteur has contained this mercurial salt, in the proportion of a grain, or a grain and a half to a pint, without its presence being made sensible by chemical tests. This circumstance will explain our inability to discover the existence of mercury in certain nostrums, except by their peculiar effects; such as salivation, and the train of disorders of the digestive organs and nervous system, following the injudicious use of the mineral. Submitted to this test, the Panacea of Swaim has, beyond all doubt or equivocation, mercury as one of the ingredients frequently, though not constantly, entering into its composition. If occasion required it, a most voluminous mass of testimony might be collected in proof of this position. Some strong facts have been already placed before the Society to show the sialagogue, or salivating property of the Panacea. Dr. Gibson avers, that, in several cases which came under his notice, salivation followed the use of it. The testimony of Drs. Emlen, Harris, Horner, Hopkinson, and Griffith, is conclusive to the same effect. Among other documents on this head, the committee have been furnished with the case of a gentleman near Petersburgh, in Virginia, advanced in life, who took the Panacea for several large ulcers on his legs and various parts of his body. After he had finished one bottle, and commenced on the second, he suffered from severe salivation, and an inflammation and swelling of the glands of the mouth. He now desisted from its use, and, after a time, entirely recovered from the salivation; but a fresh trial of the nostrum was followed by the same effects as before, viz. profuse salivation. The dose in which this gentleman first used the Panacea was a wine-glassful; but his stomach could not bear this, and he reduced the quantity to a tea-spoonful three times a day. The appearance of mercurial eruptions, and the disorder of the stomach and bowels, sometimes of an incurable nature, consequent on the use of this Panacea, are also further illustrative of its mercurial character." pp. 22—24.

With the following remarks on the injurious influence which misguided newspaper editors may exercise by conniving at the insidious attempts of quacks and quackmongers, we shall conclude our notice of this interesting document.

"Another evil, of scarcely less magnitude than the one which the committee have just been deprecating, is the currency given by the daily press to every garbled and partial statement of cures, alleged to have been effected by the various nostrums now in vogue. This course is greatly at variance with the presumed duties of newspaper editors, who are not wont, in matters alien from party politics, to be the ready echoes of ex-parte statements, which may exercise a pernicious influence over the health and morals of the community. In this instance, however, their laudatory notices, whether original or republished, are well calculated to encourage a worse than lottery gambling among their poorer and less enlightened fellow-citizens, by leading these latter to an expenditure of money entirely beyond their means, for which not one out of a hundred receives an adequate equivalent; while very many have their health irreparably injured. It is, at present, inconceivable, how some, who value themselves on their ripe scholarship, and who are, commonly, so prone to dilate on their sensitive regard for the public weal and the cause of justice, should signalize themselves on this occasion, as eulogists of ignorant conjecture and random experiment, even to the exclusion, in their papers, of counter and more correct statements of the true nature of the alleged wonder-working powers of Panaceas.

"The best commentary on this systematized abetting of the cause of empiricism, is to be met with in the increased number of empirics, and the greater boldness and presumptuous ignorance of those who were the first in the successful career of deception. The Panacea of Swaim was used in cancerous affections, and was found to fail so signally in producing any salutary effect, as to compel its proprietor to desist from recommending it in such cases. But mark the consequence. In place of retiring abashed from public notice, Mr. Swaim, who had persuaded physicians to certify in favour of his Panacea, by alleging his ignorance of diseases and remedies, and expressing his wish merely to prepare a useful compound, to be prescribed by them, now assumes the province of a surgeon, and, emboldened by past impunity from merited censure, asserts his ability to cure cancers, by certain plaisters and preparations, known, as he avers, to himself alone." p. 27.

The Report is well written, and altogether reflects great credit on the intelligence and industry of the Committee. Its members were Doctors W. E. Horner, Thomas Harris, Joseph Klapp, Charles D. Meigs, and John Bell.

Art. III. *Annals of the Lyceum of Natural History of New-York.* Vol. I. 1825. Vol. II. 1828. 8vo. New-York, G. & C. Carvill.

In an early volume of our Journal, we noticed the initial numbers of the above work, and from time to time have announced its succeeding publications. As a second volume of these "Annals" is just completed, we have thought the present a fit season for registering the proceedings of a Society in whose prosperity we feel a proper degree of pride, and whose successful efforts are evidenced by valuable collections, an increasing library, and the works now before us.

A detailed analysis of the various articles will not, of course, be expected. We shall mention the titles of all, but content ourselves with only noticing a few which may be most interesting to the majority of our readers.

Under the general head of Zoology, are the following:

1. Observations on the Manners of the Hystrix Dorsata, or Porcupine of America, by Frederick S. Cozzens.
2. Description of a new genus of Mammiferous Quadrupeds, of the order Edentata, by Richard Harlan.
3. Note on the Hirundo Fulva, by John J. Audubon.
4. Facts and Observations on the permanent residence of the Swallow in the United States, by the same.
5. On the Hirundo Fulva of Vieillot, with some general remarks on the Birds of this genus, by De Witt Clinton.
6. Description of a North American species of the genus Fringilla, by William Cooper.
7. The Genera of North American Birds, and a Synopsis of the species found within the territory of the United States, systematically arranged in Orders and Families, by Charles L. Bonaparte. This elaborate paper occupies 280 pages of the second volume.
8. Additions to the Ornithology of the United States and Observations on the nomenclature of certain species, by Charles L. Bonaparte.

9. Description of a new species of Fish from the Hudson River, (Clupea hudsonia), by De Witt Clinton.
10. An Account of the Phoca Cristata, recently taken in the vicinity of New-York, by James E. Dekay.
11. Description of a new and gigantic species of the genus Cephalopterus of Dumeril, by Samuel L. Mitchill.
12. Description of an extraordinary Fish resembling the Stylephorus of Shaw, by the same.
13. Description of an apparently new species of Diodon, by the same.
14. Description of a new species of Siren, with some Observations on animals of a similar nature, by John Le Conte.
15. Observations on the genus Salamandra, by Richard Harlan.
16. Further Observations on the Amphiuma means, by the same.
17. Remarks on the American species of the Genera Hyla and Rana, by John Le Conte.
18. Description of the Siren intermedia, a new species, by the same.
19. Description of some new species of North American Insects, by the same.
20. Description of new American species of the Genera Buprestis, Trachys, and Elater, by Thomas Say.
21. Notice of several species of Shells, (two papers), by Daniel H. Barnes.
22. Note on the Murex Corona of Gmelin, by the same.

We may, also, add to this division,

23. Appearances on Dissection of the Phoca Cristata, by Frederick G. King and Edward G. Ludlow.
24. Account of a Dissection ot the Proteus of the Lakes, with remarks on the Siren intermedia, by John Augustine Smith.

It is impossible to glance along this list, without expressing our regret at the loss which science and his country have recently sustained in the death of one of the earliest contributors to these memoirs. Amidst the toils and bustle of public life, DE WITT CLINTON found leisure to cultivate sci-

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ence as an amusement and a solace, and his conduct will remain as an example to his successors in high stations.

The dissection of the Proteus of the Lakes, by Professor Smith, is interesting from its illustrating the peculiarities of that remarkable animal. The following are among the most striking facts noticed.

> "The liver was large, its edges considerably indented, forming irregular lobes. It was connected with the anterior part of the abdomen by a fold of peritoneum, forming a long delicate suspensory ligament. The stomach was long, and full of food in various states of digestion; one insect, however, was still so perfect, that I have presented it to the Lyceum. It was recognised as the larva of a species of libellula.
>
> "The pyloric contraction of the stomach was very evident, and an inch below it, the hepatic duct entered the duodenum. The spleen was connected with the left side of the stomach, there were no pancreas.
>
> "The heart was contained in a very large pericardium. It was large, membranous, and irregular; but the quicksilver with which I attempted to inject it escaped, so that I could not determine its real shape. One vessel alone, I presume the aorta, arose from its right side. The inferior cava entered below. From the length of time the animal had been kept in spirits, I could not trace these vessels to my satisfaction. Dr. Mitchill, I understand, expects a further supply, when I hope to be more fortunate.
>
> "In the inferior part of the throat the glottis opened. The passage was one-eighth of an inch in its antero-posterior diameter, but very narrow. I have passed a thread through it of a red color, so as to mark it, as otherwise it would not be very perceptible. This passage communicated with the lungs, only one of which I could inflate. This lung is a sac about three-eighths of an inch in diameter, and four and a half inches long when inflated.
>
> "Here then is an animal furnished with one organ for the inhalation of air, and with another for extricating oxygen from the water, so that it is really and truly amphibious. This anatomical conclusion is confirmed by observation, our learned President, Major Delafield, having frequently seen the Proteus on the shores of the lakes, although the water be its proper element."—Vol. II. 259, 60.

The habits of the American Porcupine have been much misunderstood, and Mr. Cozzens has done a service by stating them in a more correct manner. His observations were made on one in his own possession.

> "On the first view of this animal, the analogy between it and the sloths of South America is clearly and satisfactorily exhibited; and I am some-

what surprised that this fact has not before been noticed by authors. The slowness of its motions, and its remarkably long claws, are not the only peculiarities which prove its affinity to those animals. Even in its spiny covering, some likeness may be traced to the thick bushy hair of the *Ai*, and it seems to hold a place between the genera *Erinaceus* and *Bradypus*.

" The porcupine, when full grown, weighs between twenty and thirty pounds, and is about two feet in length including the tail, which is nearly one-third the length of the body. The general outline somewhat resembles that of the beaver, with the exception of the snout, which is abruptly truncated, broad, and with the upper lip divided. The back part of the head and neck are thickly beset with a cluster of small spines. The legs are uncommonly short, the joints not more than one inch and a half in length, bending inwards, and covered down to the claws with long bushy hair. On the fore feet he has four, and on the hind feet five, toes; which are furnished with remarkable long and curved claws, well adapted for climbing the highest trees. In walking, the tibia, as well as the tarsus, rest upon the ground, after the manner of the tortoise, which gives him an uncouth gait, or awkward hobble. His covering consists of long coarse hair, and a coat of shorter fur, intermixed with scattered spines. But the great cluster of spines, (or *quills*, as they have been termed,) and which he uses as a means of defence, are attached to a loose skin on the extreme part of the back near the tail, and when at rest can barely be seen projecting through the hair around that part. But on the animal's being irritated, he has the power (by means of strong muscles attached to the neck) of spreading them over the back with their points in every direction. Nor is this the only means of defence he makes use of. The tail, which is also armed with smaller spines, is held close to the body, or elevated in such a manner, that on the approach of an enemy he can strike suddenly, leaving his barbed spines, which adhere very loosely, to find their way to the very heart of those who molest him; for it is a fact, that they have the extraordinary and peculiar property of penetrating further into the flesh after being once lodged: and it often happens that dogs have been penetrated by them, in every direction, so as frequently to cause their death. This arises from the structure of the points, which are very sharp, and covered with a great number of small barbs, scarcely perceptible to the naked eye, lying imbricated over each other, and pointing backwards, so that on the least motion they are propelled forwards, in the same manner that an ear of rye will move up the arm when placed on the wrist. The tail, which is large, and of a fleshy substance, is linguiform, depressed, and about the thickness of a man's hand. Above, it is studded over with numbers of smaller spines; beneath it is thickly matted with a sort of bristles. On the upper surface there exudes a strong nd fetid oil from a number of small pustules, which gives the quills a asy appearance, and probably may be another means of keeping his nies at bay. In walking, this member is dragged along the ground.

The quills are white, tipt with black, and are from half an inch to three in length. They are loosely attached to the skin, and come off very easily. The ears are entirely hid under the spines and hair. The eyes are small, shining, and black, and the expression of the countenance gentle and innocent.

"They vary very much in colour; the most common is a dark brown intermixed with white, giving them a gray appearance. The white is generally a kind of coarse hair, considerably longer than the other. Their voice is feeble and whining, from an octave descending to a sixth. Their food is the bark and leaves of the hemlock (*pinus canadensis*) and basswood (*tilia glabra;*) and they have been known to strip trees of their foliage in the same manner as the sloths of South America. They are, however, fond of sweet apples, corn, &c., which they eat holding in their fore claws in a sitting posture. The Indians say they are most excellent food, and esteem them highly. When they are discovered on the ground, which seldom happens, they do not strive to get out of the way, but on being approached, immediately spread the spines situated near the tail over the whole of the back.

"Of late years they have multiplied greatly, and are become numerous near the Oneida Lake, and in the north-western part of the State of New-York. Their quills are dyed of different colours by the Indians, and used as ornaments in giving a border to moccasins, wampum, leggins, and other parts of the Indian costume."—Vol. I. p. 90–2.

The Botanical Papers are the following:

1. Synoptical View of the Lichens growing in the vicinity of New-York, by Abraham Halsey.
2. Remarks on certain Entozoical Fungi, by the same.
3. Observations on the North American species of the genus Utricularia, by John Le Conte.
4. Observations on the North American species of the genus Gratioli, by the same.
5. Observations on the North American species of the genus Ruellia, by the same.
6. Analytical Table to facilitate the determination of the hitherto observed North American species of the genus Carex, by Lewis D. De Schweinitz.
7. Description of some new or rare Plants from the Rocky Mountains, collected in July 1820 by Dr. E. James, by John Torrey.
8. Description of some new Grasses collected by Dr. E. James, during the expedition of Major Long to the Rocky Mountains in 1819 and 20, by the same.

9. Description of some new Plants belonging to the orders Musci and Hepaticæ, by Robert K. Greville, LL.D.
10. Monograph of the North American species of Carex, by L. D De Schweinitz and John Torrey.
11. Note on the Habitat of the Schizea Pusilla, by William Cooper.
12. On the North American Plants of the genus Tillandsia, with descriptions of three new species, by John Le Conte.
13 Observations on the North American species of the genus Viola, by the same.
14. Some Account of a collection of Plants made during a journey to the Rocky Mountains, in the summer of 1820, by E. P. James, M. D., by Dr. John Torrey.

In reviewing this catalogue, we are gratified to find that so much has been done in this highly interesting department of science. The papers on the plants collected in the western regions of the United States, are not only rich in species, new, or hitherto unknown on this continent, but furnish important materials for the study of our geographical botany. In this view we should like to see collected into one work, an account of all the plants hitherto discovered west of the Mississippi; so that at a glance, we might compare such a flora, with those of other sections of the United States. We have long been promised such a work from Mr. Nuttall, and we sincerely hope that he will soon redeem the pledge, for we know of no individual better qualified than himself.

Next in point of interest, is the monograph of the North American Carices, by L. De Schweinitz, and J Torrey. Previous to the publication of this paper, Professor Dewey had commenced the examination of the North American species of this extensive and difficult genus; the results of which were published in successive numbers of Silliman's Journal. These two works furnish the American botanist ample means of studying their carices, and are monuments of the industry of their authors.

The remaining papers, with the exception of that of Mr. Halsey, noticed in a previous volume of this Journal, consist chiefly of remarks upon particular genera or families of plants. In these the desire appears to be, not so much the presentation of new species, as the more complete investigation of doubtful ones—the correction of synonyms—the exposure of errors—and more detailed descriptions than are given in general works. Five memoirs of this kind are from the pen of Mr. Le Conte, in each of which he has rendered essential service to the botanical student. We trust he will have leisure and inclination to pursue this kind of research, and that his example will be followed by other botanists. Many of our American genera are still in great confusion, which it will require a concert of action to clear up. No single individual is, in our judgment, competent to the task. The living plants must be examined in their native situations, and in many instances, throughout successive seasons; and we should award as much, we had said more, credit to one who thus minutely examined a few genera, than to the more general writer upon our botany.

The paper of Dr. Greville, upon some new plants of the Orders Musci, and Hepaticæ, is not particularly interesting to the American botanist, but is a gratifying mark of the estimation in which this Society is held by one of the most eminent botanists of Great Britain.

The GEOLOGICAL papers are:

1. On the identity of the supposed Pumice of the Missouri, and a variety of Amygdaloid found near the Rocky Mountains, by Edwin James.
2. On the remains of the Megatherium recently discovered in Georgia, by William Cooper.
3. Account of the discovery of a skeleton of the Mastodon giganteum, by the same.
4. Note on the organic remains termed Bilobites, from the Katskill Mountains, by James E. Dekay.
5. Observations on the structure of Trilobites, and description of an apparently new genus, by the same.
6. Observations on the teeth of the Megatherium, recently discovered in the United States, by Samuel L. Mitchill.

7. Notice of Fossil Crustacea from New-Jersey, by Jeremiah Van Rensselaer.
8. Sketch of the Geology of the Island of Montreal, by J. J. Bigsby.
9. Observations on a Fossil Crustaceous Animal, of the order Branchiopoda, by James E. Dekay.
10. Farther discovery of Fossil Bones in Georgia; and remarks on their identity, with those of the Megatherium of Paraguay, by William Cooper.
11. Discovery of a Fossil Walrus in Virginia. Report on a Fossil Skull, by Messrs. Mitchill, J. A. Smith, and Cooper.
12. Report on several Fossil Multilocular Shells from the state of Delaware; with observations on a second specimen of the new Fossil genus Eurypterus, by J. E. Dekay.
13. Notes on a Fossil Skull in the Cabinet of the Lyceum, of the genus Bos, from the banks of the Mississippi; with observations on the American species of that genus, by the same author.

A great proportion of the papers just enumerated contain descriptions of fossil animals found in various parts of our country, the study of which is intimately connected with geology. The intrinsic interest of these relics, together with the light which they throw upon the history of our globe, will always insure to them the highest consideration. Indeed, since the publication of the works of Cuvier and Buckland, they have been objects of primary importance with the geologist. Thus far great success has attended the investigations of the Lyceum in this particular; and their museum already exhibits numerous specimens of the inhabitants of the ancient world. Of these, the Megatherium in particular, is deserving of attention. We trust the members will follow up this subject with activity, particularly in the thorough examination of our numerous caverns.

In the department of MINERALOGY, the following papers occur.

1. Notice of new localities of simple minerals along the north coast of Lake Superior, and in the Indian Territory, north-west from Lake Superior to the river Winnepec, by Joseph Delafield. The most interesting of these are Epidote, Zeolite, Prehnite, Satin Spar, Calcedony, Agate, and Carnelian.
2. Examination of a mineral from Andover Furnace, New-Jersey, by James Renwick.
3. Notice of a locality of Yenite in the United States, by John Torrey.
4. An account of the Columbite of Haddam, (Connecticut) and notice of several other North American Minerals, by the same. In this paper, Professor Torrey shows the identity between Tantalite, and a mineral found at Haddam. This last would appear to be the same as the North American specimen of Columbite in the British Museum, which has excited so much interest among mineralogists.
4. Examination of Iron Ores from the northern part of the State of New-York, by Issachar Cozzens.
6. Remarks on native silver from Michigan, by H. R. Schoolcraft.
7. Analyses of the Copper Ore of Franconia, (New-Hampshire) with remarks on pyritous Copper, by James Freeman Dana.

The strictly Chemical papers are the following:

1. Examination of the acid of the Rhus glabrum, with observations on the juice of the Sambucus canadensis, as a delicate test, by Issachar Cozzens. This we have formerly noticed. See New-York Med. and Phys. Journal, Vol. II. 511.
2. An account of some experiments on the root of the Sanguinaria canadensis, by James Freeman Dana. This was republished in our last volume.
3. Notes on some new supports for Minerals subjected to the action of the common blow-pipe, by Joseph G. Totten.

Col. Totten was led to an investigation of this subject, from perusing an article by Mr. Smithson, in the Annals of Philosophy, on the subject of securing small particles for examination by the blow-pipe. Mr. Smithson suggests three processes. 1. Small plates of clay, formed by beating it with a hammer between the folds of a piece of paper. 2. A small portion of the clay moistened. The substance to be tested will adhere. 3. A paste of the body itself, reduced to fine powder. So successful was Mr. Smithson with these processes, that he melted flint, when even of considerable bulk, without difficulty.

As Col. Totten was not able to procure any clay sufficiently refractory, he was induced to use the mineral, which he designed to expose to the action of the flame, or in other words, to adopt Mr. Smithson's third process. The powder was made into a paste with very thick gum water, and formed under the finger into very acute cones. The particles to be tested, are very readily made to adhere to the points of these cones, and the flame of the blow-pipe can thus be directed upon it with full effect. The results were highly satisfactory. Precious serpentine melted instantly into a brownish yellow enamel. Common serpentine was more difficult of fusion, but its point formed a white blebby enamel. Black Flint, Calcedony, Carnelian, and Quartz, all melted readily. The last of these, however, was found infusible, when the smallest possible crystaline fragment was used. Colonel Totten, therefore, concludes that "this substance is fusible only in a state of powder."

These experiments (as our author observes) evidently increase the power of the common blow-pipe. With reference to it, minerals may be subdivided into the following classes.

1st. Such as are fusible per se with ordinary supports.

2nd. Such as are fusible per se in *microscopical particles.*

3d. Such as are fusible only with addition.

4th. Such as are infusible even with fluxes.

Two papers on Toxicology remain to be noticed.

1. Observations and Experiments on the seeds of the Cerbera Thevetia, by J. B. Ricord Madianna, M. D.

2. **Researches and Experiments on the Genus Passiflora, by the same.**

Orfila in his Toxicology, mentions that the nut of Cerbera ahovai, and the fruit of the Cerbera manghas, are each deemed highly poisonous. To these, Dr. M. has added another species with similar properties. Having made an emulsion with distilled water from the kernels of the C. Thevetia, he administered it to a dog. In half an hour vomiting was excited; the mouth was covered with foam, and the animal was much agitated, and ran in various directions. A stiffness of the posterior extremities, with staggering, ensued. These symptoms gradually abated, and in four hours from the time of taking the substance, he appeared out of danger. The dose here given was fourteen grains.

Twenty-eight grains administered to another dog, caused vomiting—great nervous weakness—insensibility—paralysis—dilatation of the pupils—laborious respiration—feeble and trembling pulse. Death ensued in twenty-two minutes after taking the poison.

On dissection, all the blood-vessels leading to the brain were found distended with blood; the heart also was distended with black blood; the stomach much contracted, and its mucous membrane of a dark red colour, while the mucous membrane of the duodenum was much inflamed, and contained a mucous fluid, of a spongy yellow colour.

These facts render it probable, that the Cerbera Thevetia is an acrid poison.

We believe Dr. Madianna is the first who has noticed the poisonous qualities of the Passiflora Quadrangularis, or Basbadine. This plant is cultivated very extensively in Gaudaloupe.

An infusion of the root given in a large dose to small lizards, (*Anolis Bullaris, Daudin.*) produced convulsive motions, paralysis and death, in fifteen minutes. An extreme difficulty of breathing was a striking symptom. When given to birds of different species, and frogs, a small dose produced a slight convulsion; a larger one catalepsy, while death ensued from an increase of quantity. Two table spoonsfull of the infusion made a dog cataleptic for an hour. His head and limbs remained in every position in which they were placed. At the expiration of the above time, he recovered with a slight chill.

In those animals that died from the effects of this poison, a great fulness of the blood-vessels of the lungs was noticed, together with black blood in the auricles and ventricles.

Dr. Madianna states, that in his experiments on the roots of this plant, he found a substance resembling opium.

QUARTERLY HISTORY

OF

IMPROVEMENTS IN MEDICINE AND SURGERY.

Foreign.

ANATOMY AND PHYSIOLOGY.

Chyle observed in the Veins of the Jejunum. By Professor Mayer of Bonn.*—From my own observations, as well as those of Majendie and Tiedemann, it has been proved that the veins of the intestinal canal, are capable of absorbing the different fluids which it contains. That these veins also take up chyle, is certainly not to be denied, although the fact cannot be easily demonstrated. Every piece of information, therefore, will be interesting, which confirms the opinion that the veins of the intestines absolutely absorb chyle, in a manner independent of the lymphatic system, or of those lacteals, the mouths of which open into the veins, as has been recently shown by Fohmann. The fact did not certainly escape the attention of former anatomists, although their observations on the matter are few. Swammerdam Falkenbergh, Meckel senior, found chyle in the veins of the intestines, and Menghini, also observed it in the veins of birds; and in modern times Tiedemann† observed in the vena porta white streaks which resembled chyle. Others deny the possibility of the fact. The following case occurred to my notice:—

A robust man, about 79 years of age, died suddenly from a severe attack of asthma, and his body was soon afterwards brought to the anatomical theatre at Bonn. The chest, as well as pericardium, contained a great quantity of serum. The lungs strongly adhered to the lining membrane of the chest, and contained several tubercles and small abscesses. The viscera of the abdomem presented no diseased appearance. The upper and lower extremities were both anasarcous. The intestines were now removed from the body for the purposes of anatomical demonstration. On examining separate parts of the intestines with care, I observed both on the outer and inner surfaces of the small intestines, vessels of a greyish white colour. At first I took these vessels for lymphatics, but on a closer inspection, found that they were veins. The lower third of the duodenum, the whole jejunum, and a part of the ileum, were covered with these veins, which contained a fluid very similar to chyle; but this fluid only existed in the ramifications of the veins, situated on the surfaces and borders of the intestines; for at the spot where the two layers of the mesentery met, the veins contained blood. On dividing these small veins, a thick greyish fluid, resembling chyle in appearance, was poured out; the small intestines were filled with chyme. No lymphatic vessels containing chyle could be discovered. Unfortunately the organs were in such a state, as to prevent the examination being further prosecuted.

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* Tiedemann's and Trieviranus' Zeitschrift für Physiologie. Vol. I. p. 331.

† Versuche über die Wege auf welchen Substanzen, &c. Heidelbergh, 1820. p. 74.

It scarcely admits of doubt that these veins really contained chyle; but it will be asked, how the lymphatic vessels of the intestines contained no chyle, although the man appears to have died at the moment when the formation of chyle in the jejunum and duodenum was taking place? This question I am unable to answer, but the appearance which I observed stands recorded. The vitality of the venous, probably continued longer than that of the lymphatic system, and that of the right, longer than the vitality of the left side of the heart. If this were the case, the systole and diastole of the right, continued longer than those of the left cavities of the heart, which might have exerted an influence on the absorption of the chyle, by the extremities of the veins of the intestines.

Distribution of nerves in muscular fibres.—In a Memoir on muscular action. MM. Dumas and Prevost, have communicated some very interesting microscopical observations, on the distribution of the nerves in the muscular fibres, and on the form which these latter assume during their contractions. They placed a thin piece of muscle retaining its nerves, under the microscope, and made it contract by means of galvanism. The fibres contracted by bending in a zig zag manner, and the last nervous filaments were seen to proceed parallel to each other, from the branch giving origin to them, to be inserted precisely at the points where the fibres form their angles.—*Edin. Phil. Journ. Oct. and Dec.* 1827, p. 200.

Pores of the Skin.—It is well known, that Leuwenhock said that he counted 14,400 pores, in a square inch of flesh, so that a square foot would contain 207,560,000. The whole surface of a middle size man, is fourteen square feet, which, according to the Dutch anatomist, would give 2,904,040,000 pores. Mr. Henry Eichorn, of Gottingen, wishing to be convinced of the accuracy of this assertion, lately investigated the subject, and found only 5000 pores to the square inch of flesh, and consequently 10,080,000 in a man.—*Lancet, 22nd Sep. 1827.*

On the Reproduction of the Crystalline Lens. (*Journal de Physiologie Janvier* 1827.)—It is generally believed that the lens of the eye being one of the solids of the body, is not reproduced when it has been removed by operation. But recent experiments made by MM. Cocteau and Leroy-d'Etiolle, prove that it is frequently reproduced, at least in the healthy state of the eye. They performed the operation of extraction on many rabbits, cats, and dogs; and they found that in some instances though not in all, the capsule examined at the end of four or six weeks contained a new body of a lenticular form, and approaching in consistence to that of the extracted lens. In one of their experiments they allowed the animal, a rabbit, to live till six months after the operation. "The crystalline capsules were then found perfectly transparent, without a visible cicatrix; and they contained each a lens of the same volume and consistence as those extracted. For the sake of greater certainty they were immersed in hot water, when they became opaque, hard, and friable, like ordinary lenses, the sole difference being, that the disposition in brilliant plates was evident only on the outer layers." The circumstances which determine their reproduction are not very apparent. Perhaps it is prevented by the same causes which occasion cataract; for certainly in persons operated on for that disease the lens has been often found not reproduced.—*Edin. Med. and Surg. Journ.*

Cerebro-Spinal Fluid. (*Journal de Physiologie, Janvier* 1827.)—Various opinions have been at different times entertained as to the existence or non-existence of a fluid in the cavities of the skull and spine; but at length the general idea seems to have been, that it does not exist in a state of health, and is either a morbid production, or the consequence of exhalation after death. M. Magendie, however, has lately made many observations on man and animals, and has arrived at an opposite conclusion,—namely that in a state of health there is always more or less fluid between the pia mater and arachnoid membranes of the brain and spinal column. It is found along the whole course of the spine, over the surface of the brain, and in the ventricles, with which the fluid on the external surface of the brain communicates by an opening two or three lines wide, opposite the *calamus scriptorious* of the fourth ventricle, and between the posterior cerebellar arteries. It passes easily from one region to another, particularly from the spine into the ventricles of the brain; during the action of nodding, during expiration, during muscular action, or when a tight bandage or other pressure is applied to the abdomen, it is impelled towards the ventricles; during the contrary actions it returns into the spine. Its composition is peculiar; according to Lassaigne, it consists of ninety-eight parts of water and nearly two of solid matter, the solid ingredients being composed chiefly of osmazome, with a little albumen, muriate, and carbonate of soda, and phosphate of lime. Its principal use seems to be to preserve the brain and spinal marrow in a state of uniform compression; for if it be removed in a living animal, dulness, listlessness, and inaction are caused; and if it is augmented by the fluid taken from another animal, coma and apoplexy ensue. Hence when any change takes place in the volume of the encephalon, its functions are preserved and maintained by a converse change in the cerebral fluid. If an effusion of blood occurs, the quantity of the cerebral fluid is rapidly lessened by absorption; on the contrary, when the brain diminishes in volume, as in old age, the quantity of fluid is very much increased, both on the outside of the brain and in the ventricles. Some degree of pressure is exerted by this fluid on the organs it covers; for when the vertebral *theca* is punctured, a jet several inches in height is formed; and it is probable that the pressure varies with circumstances. No other fluid can serve the same purposes: even pure distilled water when substituted for it induces immediately a state of general convulsions, and other fluids increase that effect. It appears to be constantly undergoing absorption and renovation: when a solution of the ferro-cyanate of potassa was injected into the pleura, it was detected ten minutes afterwards in the cerebro-spinal fluid, and in twenty-four hours it had disappeared again. It likewise seems to pass from one part to another with great facility: on exposing the opening of the *aqeeductus sylvii* into the third ventricle of the brain, it will be seen that slight pressure on the sacral end of the spinal sheath causes the flow of the fluid into the ventricle. It further appears to be in a state of continual motion from place to place. This is shown in a very striking manner by the following pathological facts. A woman died of apoplexy in a few hours, in consequence of an extravasation of blood into the third ventrical: the surface of the clot was found blanched, and the whole cerebro-spinal fluid was tinged with blood. In another similar case, in which the clot had got into the aqueduct of sylvius and dilated it, but without any part having escaped from the fourth ventricle, the coloration of the spinal fluid was very deep. In a case of inflammation of the pia mater of the spinal chord, ending in suppuration, and proving suddenly fatal while the patient was trying to get out of bed, pus was found in the four ventricles of the brain, without any appearance of softening of their parietes, or vascularity of their lining membrane. In a case of apoplexy proving fatal in thirty hours, and caused by a large clot in the substance of the left hemisphere, there was no communication between the clot and the ventricles, yet the whole cerebro-spinal fluid was deeply coloured with blood: and it turned out, on minute examination, that the clot communicated by a small laceration of the brain with its external surface. These cases prove that the cerebro-spinal fluid is every where in communication, and constantly in a state of motion from place to place; and they show how symptoms of disease may exist in one part of the cerebro-spinal apparatus, when the active cause of the disease really exists in another place. On this subject M. Magendie promises a more detailed inquiry.—*Ibid.*

PATHOLOGY AND PRACTICAL MEDICINE.

Epilepsy.—The following case is published by M. Bosc, of the Bicêtre. A young man, named Lecoq, aged 17 years, an epileptic, was received in the above Institution in the month of December, 1826, and placed in a surgical ward, on account of a caries of the phalanges of one of his fingers. He was of feeble constitution, his limbs but little developed, and his flesh flabby and emaciated. His intellectual powers were almost annihilated, if they did ever exist. He made use of no words, except the monosyllables *Yes* and *No*. The epileptic fits were not frequent. He always slept on his right side in bed, with his head under the coverlet. He complained of no pain, but had a diarrhœa upon him during the three months before he died in the hospital. This complaint resisted all medicines, and was supposed to depend on ulceration of the intestines. The abdomen was extremely retracted. He wasted away gradually, and at length died.

Dissection—The cranium presented a sugar-loaf form. The meninges were sound. There were several depressions on the surface of the hemispheres corresponding to protuberances of the skull; and, in these depressions, as well as in several other parts of the brain, the cortical substance was soft, and almost diffluent. The anterior lobes of the brain were extremely little developed—the circumvolutions small and numerous—the anfractuosities shallow. It was found that the general surface of the brain was softened, as far as the cortical substance was concerned; but, below this, the medullary matter was so indurated as to resemble the white of a hard-boiled egg. This extreme degree of induration was particularly observed over the lateral ventricles. The bottom of the same cavities presented considerable softening of the medullary substance.—There was some serum in the ventricles. The cerebellum appeared sound, but was remarkably small. The spinal marrow was not examined. The contents of the thorax were natural. In the abdomen, the peritoneum was found to be the seat of extensive chronic inflammation, the convolutions of intestines being glued together by false membranes. There was a plentiful crop of miliary tubercles developed under the peritoneal covering. The mesenteric glands were in a state of disease. The intestines themselves appeared sound:—their mucous membrane was pale, and somewhat softened; and the mucous follicles were considerably developed in the colon and rectum, but unattended with any ulceration. There was no other change of structure discernible in any of the abdominal viscera, except some equivocal traces of disease in the liver.

The state of the brain sufficiently accounts for the condition of the intellectual faculties, and, on this, doubtless, were dependent the epileptic paroxysms. The state of the peritoneum proves, that chronic peritonitis may go on a long time without showing any very prominent symptom of its existence. The diarrhœa, which continued so long, and which, indeed, appears to have carried the patient off at last, was evidently not the result of inflammation of the mucous membrane of the intestines, to which it is usually referred. It is more probable that, in this case, as well as in many others, it was connected with derangement of the biliary secretion.—*Johnson's Journal.*

Curious Species of Cerebral Hæmorrhage.—There is, says M. Bravais, a disease of the cortical substance of the brain, to which anatomists and pathologists have not directed sufficient attention. It is a hæmorrhage which generally occupies the whole of the cortical substance of the brain, giving place, first, to the formation of some small globules of blood, mixed with the nervous pulp, and afterwards producing yellowish cicatrices, extending from the external coverings of the brain down to the medullary matter. This lesion has an intimate connexion with cerebral hæmorrhage. The symptoms, at all times obscure, have not been distinguished when the disease was bounded to a small portion of brain. They are such as appertain to congestion and softening of the cerebral substance. Sanguineous effusions into the cortical structure are described by all authors; but M. Bravais has not seen any description answering to those yellow membranous-looking cicatrices which are now to be delineated.

Case 1. Pinard, aged 32 years, presenting, for several years, the symptoms of sombre melancholy, was observed to become rapidly emaciated during the last month of his life, and he complained much of pain in the right side of the chest, without any expectoration. He refused his food, and died on the 5th April, 1824.

Dissection.—There was a moderate proportion of blood in the sinuses and meninges of the brain—very little serosity on the surface of the hemispheres—or in the ventricles. The arachnoid and pia mater were transparent, and easily detached from the surface of the brain. In the posterior lobe of the left hemisphere was found a crude tubercle, of small size, which readily turned out with its investing membrane. Around this tubercle, the cortical substance of the brain was reduced to a pulp, of a dark colour, in which the debris of the cerebral structure was discernible, mixed with some globules of blood. The rest of the brain preserved its usual consistence. The lungs, especially on the right side, were filled with miliary tubercles, and the bronchial glands were tuberculous.

The narrator thinks it evident, that the cerebral tubercle, and the hæmorrhagic condition of the surrounding part, came on in the latter stage of this man's existence, and had nothing to do with the melancholic affection under which he so long laboured. Of this we do not see the evidence so very clearly. Knowing the slow growth of tubercles generally, we do not see any reasonable doubt, that the one situated in this man's brain may have contributed to the disturbance of the sensorial functions.

Case 2. Dupille, aged 50 years, entered the Bicetre, on the 15th May, 1824, with the following symptoms.—Delirium, loquacity, constant motion of his limbs. The strait waistcoat was applied. 20th May.—Considerable dyspnœa—delirium—coldness of the extremities—feeble and quick pulse—puriform expectoration with his cough. He died on the 29th May.

Dissection.—The meninges of the brain were perfectly natural, and the pia mater was easily detached from the subjacent cerebrum. There was a portion of cerebral substance, however, at the under part of the middle right lobe, which was completely impregnated, as it were, with blood, the nervous pulp and blood being intimately mixed. This was in the cortical substance. The medullary portion underneath was quite sound. In the thorax, a pint of limpid serum was found in the right side—in the left, a pint and a half of sanguinolent watery fluid. There was not any material disease of the lungs, except in one place. The pericardium adhered at one spot, by a false membrane, to the heart. The substance of the heart was soft, and easily lacerable, especially the left ventricle, which tore in two places, merely while handling it.

It is evident that the thoracic affections, in this case, were quite sufficient to destroy life. The cerebral hæmorrhage does not appear to have produced either convulsions, or loss of sensibility or muscular power.

A considerable number of other, and nearly similar cases, are related; but we think the above are sufficient to attract the attention of pathologists to this particular lesion of the brain.—*Ib.*

Laryngitis.—*Case.* Peter Chapion, 26 years of age, of vigorous and sanguineous constitution, came into the Hotel Dieu on the 11th March, being that day seized with acute pain in the throat, about the top of the larynx, quickly followed by difficulty of breathing and sense of suffocation. Eight ounces of blood were taken from the arm, but the sense of suffocation continued, and made progress, without increase of frequency in the pulse, or elevation of heat on the surface. *Thirty leeches* were applied round the neck, and, the same evening, venesection was repeated to *twenty ounces.* The dyspnœa was relieved by this last bleeding, and the sense of suffocation rendered less imminent. *Mustard pediluvia.* 12*th.*—The pain at the top of the throat is still acute—the voice is altered from its natural tenor, being much weaker—respiration difficult and sonorous, but not accompanied with much sense of suffocation—tumefaction of the tonsils and uvula—no appearance of albuminous exudation on any part of the fauces—the deglutition is difficult—pain on pressure of the larynx.—Some of the physicians, on introducing the finger, thought they felt a swelling about the rima glottidis. There was an expuition of reddish and sanguinolent saliva—pulse easily compressible and very little increased in frequency—heat moderate—countenance indicative of anxiety—great prostration of strength—face neither pale nor flushed, but the circulation apparently impeded—inability to deviate from the upright posture. *Venesection—blister to the nu. ha—purgatives—sinapisms to the lower extremities.* This day passed, like the preceding, in a state of constant dyspnœa, with occasional paroxysms of sense of suffocation, not, however, so threatening as to require tracheotomy. *Sixty leeches were applied round the neck*, and a cataplasm over the bites. 13*th*.—The sense of suffocation is diminished, and the patient can fill the chest by a deep inspiration—expectoration very difficult, but changing in character to the muco-purulent form. *Twenty more leeches to the neck.* On examination with the stethoscope, the breathing was heard much more distinctly in one side of the chest than in the other, and the *râle muqueux* indicated inflammatory action of the mucous membrane of the bronchia. From this time the expectoration became freer, and the dyspnœa less, until convalescence was established.—*Ib.*

Fatal Œdema of the Glottis.—Leonard Evans, of remarkably stout frame, had enjoyed good health until about two years ago, when he had a syphilis, which was completely cured. He had lately been subjected to sudden atmospheric vicissitudes, being a journeyman currier, in which occupation he was exposed to cold when the body was heated and perspiring. His habits had been regular and sober. Ten days before admission he had been employed in washing skins, and got wet in his feet. The same evening, he perceived his legs swelling, and this swelling increased and spread till general anasarca was established. In this condition he entered Guy's Hospital on the 15th November. His urine was very scanty. Elaterium was prescribed. 18th. The swellings rather diminished, and a grain of elaterium was continued twice a day. 19th. There was a dark brown tinge in his urine, which *coagulates by heat.* Elaterium—jalap and cream of tartar. 21st. The anasarca a good deal reduced—makes six or eight pints of urine per diem, of a high brandy colour, which does *not* coagulate. Dec. 1. Complains of pain under his jaw; but the œdematous swellings are nearly gone. The urine is only four pints per diem, coagulates, and contains much blood. Bled to ten ounces. This was repeated on the 2d, and half a grain of tartarised antimony, with two grains of opium were given daily. 3d. Complains of sore throat; but he is walking about the ward, and appears much better. An ammoniated liniment to the throat. 4th. The throat relieved. 5th. He seemed much better all yesterday, and slept soundly during the night. This morning, at 7 o'clock, he suddenly complained of great difficulty of swallowing and breathing, with severe sense of constriction in his throat and chest.—Fourteen ounces of blood were taken from the arm, and sixteen leeches were applied to the throat and chest. An emetic was administered. But all was unavailing, and, at eleven o'clock of the same day, he expired.

Dissection.—No anasarca—lungs rather gorged with blood, but otherwise healthy in structure. Heart and pericardium sound. Four ounces of fluid in each side of the chest. There was nothing very remarkable in any of the viscera, except the kidneys, which presented a very curious appearance. They were large and flabby, of the darkest chocolate colour interspersed with a few white points, and a great number of black, with a tinge of red—the whole having the appearance of polished fine grained porphyry, or green stone. These colours pervaded the whole of the cortical substance of the kidney; but the natural striated appearance was not lost. From the left kidney, when cut through, a large quantity of blood oozed out, showing an unusual accumulation in the organ.—These appearances are represented in the fifth plate of Dr. Bright's great work.

The epiglottis was next examined, and this was found to be greatly thickened by an œdematous effusion beneath the membrane on its upper side. "It was bent into the form of a pent-house, with a sharp angle."—The lower surface was also thickened, and presented a doubtful appearance of superficial ulceration. When the epiglottis was cut into, a considerable quantity of serous fluid oozed out, and the glottis itself was much contracted. Dr. B. properly observes, that there could be no doubt that the patient died of suffocation, from inflammation and consequent œdema of the glottis and epiglottis. This we believe—and surely the case was precisely one where bronchotomy would have saved the life of the patient, at least for that time.—*Ib.*

On the Treatment of Acute Rheumatism by Tight Bandaging. (*Archives Gén. de Médecine, Juin,* 1827.—In the number of this Journal for October and January last, a short account was given of a proposal made by M. Velpeau, of Paris, to treat the several varieties of diffuse subcutaneous inflammation by graduated pressure, applied by means of the roller bandage. The same plan has lately been tried with great success by Dr. Varlez, surgeon-in-chief of the military hospital of Brussels, in the treatment of acute rheumatism of the joints. He has related several cases in which the bandage was applied in the acutest form and stage of the disease, when the redness and swelling were great, the throbbing pain violent, and the general fever high, and in which the treatment was crowned with speedy and complete success. In almost every instance the application of the bandage is followed at first, and for two or three hours, with increase of the pain, so that the patient can with difficulty be persuaded to persevere; but soon afterwards the pain begins to abate, and the abatement then advances with rapidity. Dr. Varlez generally moistened the bandages with an emollient decoction, which, besides having the ordinary effects of emollients, were useful by increasing the pressure.—*Edinburgh Medical and Surgical Journal.*

On the Treatment of Inflammation of the Tongue, (*Horn's Archiv. fur*

Medizinische Erfahrung.)—*Case* 1. A stout man, 68 years of age, by trade a mason, was attacked with pain in the throat, redness of the fauces, and swelling of the tonsils, but without much fever. These symptoms were considerably diminished by leeches applied to the angles of the jaws, emollient gargles, and a mustard pediluvium. But in consequence of exposure to cold he was soon afterwards seized during the night with a tormenting sense of tightness at the root of the tongue, difficulty in speaking and swallowing, and ere long with swelling in the tongue and impending suffocation. When his physician saw him in the morning, he could not speak; the pulse was very quick and feeble, the countenance pale and anxious, and the tongue filled the whole cavity of the mouth.—On account of the firmness with which the tongue was pressed against the roof of the mouth, and the patient's inability to separate the jaws to half the usual distance, it was found impossible to make on its upper surface more than two short incisions, from which very little blood flowed. An incision was therefore made with the lancet into each sublingual vein; and when the blood ceased to flow, fresh incisions were made, and the discharge promoted by injecting warm water into the mouth. In the course of two hours the swelling was so much diminished that the man was able to rinse the mouth with warm milk, after which a blister was applied to the neck and a purgative enema administered. A rapid amendment then took place, so that before the close of the day he could speak intelligibly, and his recovery went on steadily.

Case. 2.—Another case was of a less acute form than the former. It had existed eight days before it came under treatment. The patient had little pain or fever, but swallowed with great difficulty, and could breathe only in the upright posture. The case was cured by blisters, gargles, and the mustard pediluvium.—*Ib.*

Employment of Iodine in the Treatment of Cynanche Parotidæa. (*Rust's Magazin fur die gesammte Heilkunde,* 1826.)—Doctor Neumann, of Neustadtel, in Silesia, has employed the hydriodate of potass with great success as an external application in cynanche parotidæa, which prevailed epidemically in Neustadtel, in June 1823. Among the poorer orders who were treated in the ordinary way, the disease was very tedious, and generally ended in suppuration. Among the better ranks, the treatment consisted in the exhibition of an emetic, and the application over the tumour of a plaister composed of eight parts of mercurial ointment and one part of the hydriodate of potass; and the ordinary effect was a radical cure within three or four days. Doctor Neumann adds, that he never observed in the cases so treated any metastasis to other organs; and he is disposed to impute this to the formation of an erythematic eruption, which always appeared on the first or second day, and remained from eight to twelve days. The author has annexed a very instructive case, illustrating the deleterious effects of this drug when given in too great quantity. It was given to cure enlargement of the cervical glands, which it accomplished very effectually; but the patient was at the same time attacked with violent palpitation in the chest and abdomen, which was relieved only by the horizontal posture, then with great weakness and tendency to faint, and subsequently with emaciation and general dropsy. The palpitation was so violent and constant as at first to appear connected with organic derangement; but the relief obtained from the horizontal posture, the absence of cough and dyspnœa before the dropsy commenced, and the regularity of the pulse, led Doctor Neumann to conceive that the disorder of the heart was merely functional. Accordingly, although the patient had been ill for a twelvemonth, the irregularity of the heart's action was soon subdued by the employment of digitalis and cherry-laurel-water; and the tendency to faint and anxiety at the same time disappeared. The dropsy, however, continued much longer; but at length it slowly receded under the use of the *Arnica* combined with soap.—*Ib.*

MATERIA MEDICA.

On the Means of ascertaining the Purity of Sulphate of Quina. By R. Phillips, F.R.S. L. & E. &c.—The great demand which has arisen for this important medicine, and the high price at which it is necessarily sold, have excited some, who are careless as to the means by which they acquire gain, to sophisticate it in a vast number of ways, and by every means which talent misapplied could suggest.

Having repeatedly of late been requested to examine various samples of sulphate of quina, I thought it might be useful to state the several modes which may be employed for that purpose: and I make the present communication with the greater confidence, because I have received the very able assistance of my friend Mr. John T. Barry, of Lombard-street, to whose chemical skill, and the opportunity of frequently applying it, I am indebted for the greater number of hints and facts detailed in this paper.

Pure sulphate of quina has the form of minute fibrous crystals, it is inodorous, and its taste is bitter. If certain vegetable products, such as starch or sugar, be mechanically mixed with it, they may possibly be observed by merely inspecting the preparation with a glass.

1st. If the sulphate of quina be mixed with a considerable proportion of foreign matter, it may probably be detected by dissolving the salt in question in about three hundred times its weight of water—say one grain in about five fluid drams of boiling distilled water. On cooling, pure sulphate of quina will be deposited in feathery crystals in 24 hours, if there be no adulteration.

2d. As indirect, but as good collateral evidence, the taste of sulphate of quina of known good quality may be compared with that of another sample. Thus when pure, a grain of sulphate of quina will render nearly a pound and a half of water, or 10,500 grains, sensibly bitter.

3d. The alkalies, either pure or their carbonates, if but slightly in excess, always occasion precipitation at ordinary temperatures in a solution of sulphate of quina containing only 1-1000dth of its weight, or less than one grain in two fluid ounces of water.

4th. A solution of tannin occasions a very sensible precipitate in an aqueous solution of sulphate of quina, containing only 1-10,000dth of its weight of the salt, provided there be no acid in excess. Kino is that form of tannin which best answers the purpose. It is, however, to be observed, that the salts of morphia, cinchonia, strychnia, &c. are similarly affected by tannin; but they are not likely to be mixed with sulphate of quina.

5th. Sulphate of quina suspected to contain sugar, gum, or other substances soluble in cold water, may be tried by digesting the same portion of the salt in small and successive portions of water to saturation. If the sulphate of quina be pure, and the solutions all properly saturated, they will have the same taste and specific gravity; and similar portions will yield by evaporation equal quantities of solid residuum.

6th. A repetition of the above process, substituting alcohol for water, answers for extracting resin and some other substances, because sulphate of quina is soluble in alcohol to only a limited extent.

7th. If a white substance insoluble in cold water be found in the sulphate of quina, heat the mixture to about 170 degrees of Fahrenheit.—This will render starch soluble, and its presence may be determined by the addition of an aqueous solution of iodine, which will immediately occasion a blue colour, and eventually a blue precipitate. The iodine should be added in very small quantity.

8th. Sulphate of quina has been adulterated with ammoniacal salts.—These are rendered obvious by adding a little of the suspected salt to a solution of potash. If any ammoniacal salt be present, ammoniacal gas will be readily detected, either by the smell, or by holding over the mixture a piece of turmeric paper, or a bit of glass moistened with acetic acid.

9th To ascertain whether sulphate of quina contains any earthy salts, such as sulphate of magnesia or sulphate of lime, burn a portion of it in a silver or platina crucible, or even in a clean tobacco-pipe. Any earthy salt, or any matter indestructible by heat, will of course remain in the vessel.

10th. To ascertain that the sulphate of quina contains the proper quantity of sulphuric acid and quina, dissolve a little in pure muriatic or nitric acid, and add a solution of muriate or nitrate of barytes: 60 parts should give about 17·3 to 17·4 of sulphate of barytes; or the method may be varied without the trouble of drying the precipitate. Dissolve 60 grains of sulphate of quina in water slightly acidulated with muriatic or nitric acid; add a solution of 18 grains of nitrate of barytes, and separate the precipitated sulphate of barytes by filtering. If nitrate of barytes be now added to the clear solution, it should still occasion slight precipitation, for 60 of sulphate of quina contain 5·8 gr. of sulphuric acid, equivalent to 19·1 of nitrate of barytes.

This test is only to determine that there is no crystallized vegetable matter uncombined with sulphuric acid in the sulphate of quina; the detection of earthy or alkaline sulphates has already been provided for.

11th. Sulphate of quina should lose not more than from eight to ten per cent of water by being heated till deprived of its water of crystallization. Mr. Barry informs me that he once examined a sample which contained more than 40 per cent of water in excess diffused through it.—*Philos. Mag.*

MEDICAL JURISPRUDENCE.

Feigned Diseases.—Dr. Cheyne, Physician General to the army in Ireland, has recently published in the Dublin Hospital Reports, an interesting letter on the *Feigned Diseases of Soldiers.* Individuals who simulate, or produce diseases to evade military duty, are generally styled *malingerers* and of these, the experience of Dr. Cheyne for nearly thirty years has enabled him to witness many. Before proceeding to consider the precise object of his letter, which is the feigning of diseases *in the province of the physician*, he mentions the following cases, as showing that methods of deceit are systematized and preserved in regiments, and handed down for the benefit of those who may be inclined to make trial of them.

"When the 18th Hussars embarked for England in 1807, one of the men of that regiment who had been left behind in the King's Infirmary, joined at Rumford, with his scrotum very much enlarged and inflamed. His story was as follows. Soon after leaving the infirmary, he jumped from a window, upon which he immediately perceived a swelling in the groin; on his landing in Liverpool it became so large and painful that he could not walk, and was obliged to be forwarded to head-quarters in a cart. On handling the swelling, the surgeon of the regiment having perceived an unusual crepitus, as if air were diffused through the cellular substance, immediately wrote a statement of the case to the late Mr. Obré, who was surgeon to the king's infirmary, and in the mean time he used warm applications, purgatives, and low regimen. Mr. Obré, in reply, enclosed a paper that had been picked up in the ward of the infirmary in which the man lay, containing 'a receipt for making a rupture,' in which were directions to puncture the bag with a corking pin, and then by means of a tobacco pipe, to blow it up with air; and if it were wished to produce a double rupture, the same thing was to be done on the other side, after which warm poultices were to be applied to take down the inflammation. This man strenuously denied ever having made use of any such means. By the applications directed the swelling gradually subsided; but while under treatment, he got or pretended to get a pain in the right hip or groin and inability to move the limb. From this man's previous history, his new complaint was believed to be feigned. He was placed on low diet, the shower bath was used along with purgatives, a mercurial course, repeated blisters and issues, but he would not yield. The commanding officer of the regiment disregarding the opinion of the surgeon and Dr. Warren, deputy inspector of hospitals, had this man brought forward, discharged previous to the embarkation of the corps for the peninsula, and was much displeased because the surgeon refused to sign a recommendatory certificate, by which refusal the reported man, who had been many years in the regiment, lost his pension. The same commanding officer, after his return from Corunna, met this man in London, perfectly well and following the laborious occupation of a porter."

Ophthalmia is another disease produced on a number by concerted means. "I never saw," says Dr. Cheyne, "a more humiliating picture of depravity, or perversion of reason, or call it what we may, than I have witnessed in a ward filled with soldiers labouring under that disease; most of the cases, as I learnt from the surgeon in attendance, being factitious. The methods by which inflammation of the eye is produced and maintained have not all been brought to light, but quick lime, infusion of tobacco, the gonorrhœal discharge, cantharides ointment, nitrate of silver, blue stone, and other metallic salts, are probably the most common irritants employed. Inflammation thus caused is most painful, and is kept up under every privation which can make life miserable: locked up in a dark ward, and permitted to have intercourse only with the officers of the hospital, nurses, and orderlies, confined to diet which from the absence of every stimulating material is most disrelishing, suffering under painful external applications and nauseating internal remedies, phlebotomized and leeched till their complexions are bloodless, their pulse hæmorrhagic and the frightful train of nervous symptoms, which excessive blood-letting produces, is established in the system.—All these evils, in many cases, have no effect but to confirm the soldier in his determination to destroy one or both of his eyes, that he may be dismissed from the service with the chance of a small pension."

The following diseases are enumerated by Dr. Cheyne as most frequently feigned. Paralysis, vertigo, headache, epilepsy, mania, hæmoptisis, phthisis, diseased heart, syncope, vomiting, tympany, dysentery, chronic hepatitis, fevers, rheumatism, and dropsy. We select some of his remarks on tympany, as this is a rarer disease than the rest.

"In 1811, as I learn from Dr. O'Hara, apothecary to the forces, a considerable number of patients, from thirty to forty, belonging to the 2nd battalion of the 84th regiment, were admitted into the king's infirmary, labouring as was stated in the admission ticket, under dropsy and intermittent fever. On examination, the abdomen was found greatly distended and felt tympanitic; the tongue, with few exceptions, was clean, pulse regular, urine natural, and bowels in general costive. These men complained of pain in the right side, and many of them of pain over the whole abdomen, with excessive thirst—drinking more than a gallon of water daily. The disease was at first considered a consequence of the Walcheren fever, but from the numbers increasing, and all with the same symptoms, Dr. Harvey was led to conclude that the complaint was feigned. Under that impression, he prescribed a solution of glauber salts in weak tobacco-water, which he called the Infusum Benedictum; a cupful of this detestable compound was given in the morning and repeated every fourth hour, till it operated, and with perfect success. All who were in hospital recovered speedily, and the disease, which was becoming epidemical, soon disappeared. Sixteen, however, of the number had succeeded in obtaining their discharge before this method of treatment was discovered."

Two questions naturally occur relative to the production of this form of tympany. First, in what part of the intestinal tube is the air arrested; secondly, how is the distension produced. The air must be either in the stomach, or in the intestines. If in either intestine, it might be easily dislodged by the introduction of an elastic tube into the stomach first, and then up the rectum. If in the stomach, the air is probably swallowed, which many can do without difficulty. It was reported that the men of the 84th produced the distension by swallowing large quantities of chalk and vinegar. Mr. Bamfield, surgeon of the 35th regiment, relates, that "he has seen three cases of impostors, feigning enlargement of the abdomen, with tension and diseased viscera, which was done by protruding the abdomen by means of a deep inspiration, in which the diaphragm pressed the abdomen downwards and forwards, then the abdomen was kept so distended by means of very short expiration. The detection (he continues) was simple and easy, as it was only necessary to surprise the patient while asleep, when his abdomen was soft and unprotruded."—*Dublin Hospital Reports*, Vol. IV.

CHEMISTRY.

Bromine.—This name has been given to a supposed elementary substance discovered in sea-water by M. Balard of Montpelier. The name first applied to it by the discoverer was *muride;* this was subsequently changed to Brome, a term derived from the greek *βρωμος*, (*graveolentia*) signifying a rank or strong odour. But for the sake of conformity to the nomenclature, the appellation above given is to be preferred.

The original essay of M. Balard appeared in the *Annals de Chimie et de Physique*, for August, 1826. Since that time several papers have appeared in the foreign journals on the same subject. We propose giving a condensed view of what is at present known concerning this interesting substance. (*Editors New-York Med. & Phys. Jour.*)

Properties of Bromine.—At common temperatures bromine is a liquid, the colour of which is blackish, red when viewed in mass, and by reflected light, but appears hyacinth red when a thin stratum is interposed between the light and the observer. Its odour, which somewhat resembles that of chlorine, is very disagreeable, and its taste powerful. It acts with energy on organic matters, such as wood or cork, and corrodes the animal texture; but if applied to the skin for a short time only, it communicates a yellow stain, which is less intense than that produced by iodine, and soon disappears.

It is highly destructive to animals, one drop of it placed on the beak of a bird having proved fatal. Its specific gravity is 2.996. Its volatility is very considerable; for at common temperatures it emits red coloured vapours, which are similar in appearance to those of nitrous acid, and at 116.5° F. it enters into ebullition. It retains its liquid form at the temperature of zero of Fahrenheit's thermometer; but according to Mr. Serullas, it is converted into a friable solid at a temperature between 0 and 4° Fahr. (*Ann. de Chim.* v. 34.)

Bromine is a non-conductor of electricity, and cannot be decomposed by the voltaic pile; neither has caloric any effect on its chemical nature, for it suffers no change on making its vapour pass through a luted tube of glass at a strong red heat. It supports combustion in a very feeble manner: a lighted taper immersed in the vapour of bromine is soon extinguished; but before going out, it burns a few seconds with a flame which is green at its base, and red at its upper part, as in an atmosphere of chlorine.

Bromine is soluble in water, in alcohol and particularly in ether. It does not redden the tincture of litmus, but rapidly bleaches it like chlorine: and it also deprives of colour the solution of indigo.

In its combinations with other substances, bromine comports in a manner similar to chlorine and iodine.

Bromic acid may be procured in a separate state by decomposing a dilute solution of bromate of baryta with sulphuric acid. It appears to consist of one atom of bromine and five atoms of oxygen, being similar in constitution to the iodic, chloric, and nitric acid. It combines with bases, and forms a class of salts denominated bromates.

Bromine and chlorine.—These combine at common temperatures, forming a very volatile liquid of a reddish-yellow colour, penetrating odour, and exceedingly disagreeable taste. It is soluble in water, and dissolves in that liquid apparently without decomposition; for the solution bleaches litmus paper without previously reddening it, and has the characteristic colour and odour of the compound. By the action of the alkalies it is resolved into muriatic and bromic acids.

Bromine and hydrogen.—No chemical action takes place between the vapour of bromine and hydrogen gas, at common temperatures, nor even by the agency of the direct solar rays; but on introducing a lighted candle, or a piece of red-hot iron into the mixture, combination ensues in the vicinity of the heated body, though without extending to the whole mixture, and without explosion. The union is readily affected by the action of bromine on some of the gaseous compounds of hydrogen. Thus on mixing the vapour of bromine with hydriodic acid, sulphuretted hydrogen, or phosphuretted hydrogen gases, decomposition follows, and a colourless gas possessed of acid properties, is generated. To this gas the name of hydrobromic acid, is applied. The hydro-bromic acid gas may be conveniently procured for experimental purposes, by a process similar to that for forming hydriodic acid. A mixture of bromine and phosphorus, slightly moistened, yields a large quantity of pure hydro-bromic acid gas, which may be collected over mercury.

The hydro-bromic acid is colourless, has an acid taste and a pungent odour. It irritates the glottis powerfully, so as to excite cough, and when mixed with moist air, yields white vapours, which are denser than those occasioned under the same circumstances by muriatic acid gas. It undergoes no decomposition when transmitted through a red hot tube either alone, or mixed with oxygen. It is not affected by iodine, but is instantly decomposed by chlorine, with the production of muriatic acid gas, and the deposition of bromine. It may be preserved without change over mercury; but potassium and tin decompose it with facility, the first at common temperatures, and the last by the aid of heat.

The hydro-bromic acid is very soluble in water. The aqueous solution may be made by treating bromine with sulphuretted hydrogen dissolved in water, or still better, by transmitting a current of hydro-bromic gas through pure water. The liquid becomes hot during the condensation, acquires great density, increases in volume, and emits white fumes when exposed to the air. This acid solution is colourless when pure, but possesses the property of dissolving a large quantity of bromine, and then receives the tint of that substance.

The composition of this acid may be inferred from the following facts. 1. On decomposing hydro-bromic acid by potassium, a quantity of hydrogen remains precisely equal to half the volume of the gas employed. 2. When hydriodic acid gas is decomposed by bromine, the resulting hydro-bromic acid occupies the very same space as the gas which is decomposed. From these it appears that the hydro-bromic is analogous to hydriodic and muriatic acid gases; or that one hundred measures of hydro-bromic acid gas contain fifty measures of the vapour of bromine, and fifty of hydrogen.

It is also obvious from these experiments, that in relation to its affinity for hydrogen, bromine is intermediate between chlorine and iodine, its affinity for that substance being weaker than the first, and stronger than the second. The affinity of bromine and oxygen, for hydrogen appears nearly similar; for while oxygen cannot detach hydrogen from bromine, bromine does not decompose watery vapour.

Hydrocarburet of Bromine.—This compound is formed by adding one part of the hydrocarburet of iodine to two parts of bromine contained in a glass tube. Instantaneous action ensues, attended with disengagement of caloric and a hissing noise, and two new compounds, the bromuret of iodine, and a liquid hydrocarburet of bromine are generated. By means of water the former is dissolved, while the latter, coloured by bromine, collects at the bottom of the liquid. The decoloration is then affected by means of caustic potash. If in this process the hydro-carburet of iodine is in excess, very little hydrocarburet of bromine is formed; but a sub-bromuret of iodine analogous to the sub-chloride of iodine described by Gay Lussac, will then be obtained.

According to M. Serullas, its discoverer, the hydrocarburet of bromine, after being washed with solution of potash, is colourless, heavier than water, very volatile, of a penetrating ethereal odour, and of an exceedingly sweet taste, which it communicates to water in which it is placed, in consequence of being slightly soluble in that liquid. It differs chemically from the proto-hydrocarburet of iodine previously described by M Serullas, in yielding bromine instead of iodine when decomposed, in forming white instead of violet vapours when thrown on red hot poreclain, and in not acquiring a colour by exposure to the air. It becomes solid at a temperature between 21° and 23° F.

Cyanuret of bromine.—This compound was prepared by M. Serullas, by adding one part of bromine to two of cyanuret of mercury, and subjecting them to low degrees of temperature in a manner analogous to that in which he procured the cyanuret of iodine. A strong action ensues, and two new products, viz. bromuret of mercury, and the cyanuret of bromine are formed; the latter of which collects in the upper part of the tube in the form of long needles. After allowing any vapour of bromine, which may have risen at the same time, to condense and fall down upon the cyanuret of mercury, the cyanuret of bromine is expelled by a gentle heat, and is collected in a recipient carefully cooled.

As thus formed the cyanuret is crystallized, sometimes in small regular colourless and transparent cubes, and sometimes in long and very slender needles. In its physical properties it is so very similar to the cyanuret of iodine, that they may easily be mistaken for each other, especially when the crystals of the cyanuret of bromine possess the acicular form. They agree closely in odour and volatility, but the cyanuret of bromine is even more volatile than the cyanuret of iodine. It is converted into vapour at 59° F. and crystallizes suddenly on cooling. Its solubility in water and alcohol is likewise greater than that of the cyanuret of iodine. Caustic potash in solution converts it into the hydro-cyanate and hydro-bromate of potash.

Cyanuret of bromine is extremely deleterious. A grain dissolved in water and given to a rabbit, instantaneously killed it; the inconvenience produced by its deleterious properties, as well as the scarcity of bromine, induced M. Serullas to discontinue his experiments upon it.

In addition to the above, bromine also forms compounds with the metals, presenting in its action the closest resemblance to that which chlorine exerts on the same substances. Antimony and tin take fire by contact with bromine; and its union with potassium is attended with such intense disengagement of heat, as to cause a vivid flash of light, and to burst the vessel in which the experiment is performed. M. Balard is of opinion, that the soluble metallic bromurets are converted, like the similar compounds of chlorine and iodine, into neutral hydro-bromates, and reciprocally, that the hydro-bromates are frequently converted into bromurets in passing into the solid state. All the bromurets are decomposed by chlorine with the evolution of bromine; and the hydro-bromates are not only attacked by chlorine, but by all substances, such as the chloric or nitric acids, which have a strong tendency to deprive other bodies of hydrogen. And the bromurets as far as they have been examined, bear a great resemblance to the chlorides.

Bromine acts upon the metallic oxides much in the same manner as chlorine. On passing the vapour of bromine over potassa, soda, baryta, or lime, a vivid incandescence ensues, oxygen is disengaged, and a metallic bromuret results. Magnesia and Ziroonia are not decomposed by this treatment.

When bromine acts on the solution of an alkali, or alkaline earth, considerably diluted with water, the solution acquires bleaching properties; and the bromine can be separated by acetic acid. But when this substance acts upon a concentrated solution of potassa, or when solid potassa is agitated with the ethereal solution of bromine, two salts are generated, the hydro-bromate and bromate of potassa; and on evaporating the solution, the former is obtained in cubic and the latter in acicular crystals. The bromate of potassa is separated from the hydro-bromate by being very sparingly soluble in cold water. The alkaline earths likewise cause the formation of the two acids, but magnesia does not appear to possess that property.

The bromates as we have before remarked are analogous to the chlorates and iodates; and the hydro-bromates are no less analogous to the hydrochlorates and hydriodates.

Sources and mode of obtaining bromine.—Bromine exists in sea water in the form of hydro-bromic acid, combined according to M. Balard, with magnesia. He also ascertained that it exists in marine plants which grow on the shores of the Mediterranean sea, and has procured it in appreciable quantity from the ashes of the sea-weeds that furnish iodine. The same chemist likewise detected its presence in the ashes of some animals, especially in those of the *Janthina violacea*, one of the testaceous mollusca. Professor Gmelin of Tübingen has since discovered bromine in the water of the Dead Sea. It has also been found in several salt springs in Germany. Thus it has been detected in the mother water of the salt works at Theodörshalle, by Professor Liebig; at the salt works at Rappenau in Baden, by Professor Geiger; at those of Dürrheim, Schweningen, Wimpfen, and Jaxfeld, by Professor Frommberz of Freyburg; at those of Halle by Dr. Meissner; of Schönebeck by Mr. Hermann; and of Rosenheim in Bavaria by Vogel. (*See Poggendorff's Annals*, 8*th volume, quoted in Brewster's Edin. Journ.* Vol. VII. 190.

The process which has been discovered for producing bromine in the easiest manner, and in the greatest quantities of any other, consists in passing for some time a current of chlorine through the mother water of the salt works, and then mixing the solution with a quantity of ether; after agitating this compound and leaving it at rest a few seconds, the ether rises to the top, coloured with a beautiful hyacinth red. This is a true ethereal solution of bromine, and on being agitated with caustic potash, the latter by degrees loses its alkaline properties, becomes changed into a saline substance, soluble in water, and crystallizable in cubes. These crystals being pulverized with purified peroxide of manganese, and the mixture being put into a retort with diluted sulphuric acid, a ruddy vapour is produced, which condenses in the neck of the retort into drops of bromine.

Elementary nature of bromine.—From the circumstance of bromine being intermediate between chlorine and iodine, in some of its more important chemical relations, M. Ballard at first suspected it to be some unknown compound of these bodies, but as on further examination, he failed in obtaining the least trace of decomposition, he was induced to adopt the opinion that it is an elementary substance. The facts which have been related are greatly in favour of this view. Upon being laid before the Academy of Sciences, they were referred to three of the most eminent chemists in France, viz. MM. Vauquelin, Thenard, and Gay-Lussac. In their report they speak very highly of the experiments of Balard, and state that they had the opportunity of examining a minute quantity of bromine, and also of obtaining it from the salt marshes of Aren. And although they refrain from stating their conviction that it is a simple substance, they consider it as highly probable, and a point that can only be determined by continued researches, and on larger quantities.

M. Liebig, Professor of Chemistry in the University of Giessen, on receiving the memoir of M. Balard, obtained a quantity of bromine, and was enabled to repeat a great number of the experiments detailed in it; but he did not observe any phenomenon which leads to a conclusion contrary to that which M. Balard had deduced from his researches. Professor Liebig adds a few experiments in support of the opinion that bromine, like chlorine and iodine, is to be regarded as a simple substance. *Ferussac's Bulletin, December* 1826.

On the 10th of October 1826, M Chevreul is said to have announced to the Academy of Sciences, that M. Dumas had discovered a chloride of iodine which has all the properties of bromine. But this assertion seems to be completely disproved by the following experiments.

Iodine colours a solution of starch blue, bromine renders a similar solution orange colour. M. A. de la Rive added a few drops of bromine to a solution of starch coloured blue by iodine, and obtained a compound which gave two distinct colours with starch, one brown, the other yellow; the difference of colour corresponding with the two bromides of iodine described by M. Balard. These compounds of iodine and bromine, dissolved in a solution of starch, were subjected to the voltaic pile: immediately the yellow solution became blue about the negative pile, and orange about the positive pile, indicating the separation and places of the iodine and bromine. Thus the smallest quantity of iodine may be discovered in bromine; but when the experiment was resorted to, to prove whether the idea thrown out, that bromine was a compound of chlorine and iodine, was founded in fact or not, it gave no such indication, and a solution of bromine in starch electrified for a long time together, gave no appearance of iodine.

Hence M. de la Rive concludes, that bromine contains no iodine, but is an element analogous to iodine and chlorine.

When bromine and iodine are combined, the former passes to the positive pole, and is consequently more negative than the latter; which accords with the observation of M. Balard, that it should occupy a place between chlorine and iodine.

According to the *Bulletin Universelle*, when the letter of M. Arrago, containing an account of the facts above referred to, was read to the Academy of Sciences, that body decided that the assertion of M. Dumas, that bromine was a compound of chlorine and iodine, should be considered as retracted, and that it should be so entered upon the proces-verbal of the sitting.

Upon the whole therefore, the weight of evidence is greatly in favour of the elementary nature of bromine, although the question is not fully settled. The examination of it appears to have been confined chiefly to the continental chemists; and as yet we have seen no original remarks or experiments from those of Great Britain. Where are the Davys, the Wollastons, and the Thomsons? Have they left the field, or are they about to yield their boasted superiority?

Sale of bromine.—The discoverer of bromine, M Balard, has been enabled by his improvements, to prepare that peculiar body in quantities sufficient to permit its sale. It may be obtained at his shop, Rue Argenterie à Montpellier, or at M. Quesneville's manufactory of chemical substances at Paris. The price is four francs the gros, (about 60 grains) fourteen francs the half ounce, and twenty-three francs the ounce.*

MISCELLANEOUS.

Cultivation of Horse Radish in Denmark.—An account of this was given to the London Horticultural Society, November 6th, 1827. The roots are cut into slips, and planted *horizontally*, the lower end inclining a little upwards; and the crown of the plant hanging over the alleys, by which the beds are separated. From time to time, the roots are uncovered, and all the *lateral* fibres are carefully removed, by which the size and length of the roots are much increased.—*Brande's Journal, N. S. No.* 4. *p.* 427.

Object of Embalming in Egypt —A French Chemist, M. Julia Fontenelle, in a discourse delivered on occasion of the opening of an Egyptian Mummy in the theatre of the Sorbonne at Paris, has delivered an opinion respecting the cause of embalming in Egypt, that they were led to it from physical necessity. During four months of every year, the inundation of the Nile covers almost entirely the whole of the surface of Egypt which is under cultivation. Under the reign of Sesostris, for an extent of territory of about 2250 square leagues, there would be a population of 6222 persons per square league, which would present 350,000 deaths per annum. These corpses must be got rid of either by burning or interment; if the latter, they must be buried around the inhabited spots, or in those which were inundated by the Nile, and then the decomposition of these bodies would have been a source of infection; and for burning bodies, there was a want of a sufficiency of wood. But the soil of Egypt abounds in springs of natron and sub-carbonate of soda; and as this substance is antiseptic, the inhabitants were naturally led to preserve with it the corpses of the dead. In support of this opinion, that sanitary views alone were the cause of embalming, down to the third century before the christian era, when the practice was discontinued, M. Fontenelle observed, that during the whole of that period, the plague was unknown in Egypt, where it is now endemic.—*Jameson's New Edinburg Philosophical Journal, No.* 6. p. 393.

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* For the preceding elaborate account of Bromine, we are indebted to a gentleman who will hereafter superintend the chemical department of this Journal. *Ed. New-York Med. & Phys. Jour.*

Rate of Sickness in the British Army.—The very interesting and novel subject of the average rate of sickness among individuals, has lately excited considerable attention in Great Britain. It appears to have been particularly examined with reference to the establishment and organization of friendly societies. In an inquiry before the House of Commons in 1825, Mr. Finlaison, one of the witnesses, presented the following account of the rate of sickness in the British army for the years 1823 and 1824.

An abstract is preserved in the Adjutant General's office of the musters made on the 25th of every month, of each regiment or corps in England, showing, exclusive of officers and non-commissioned officers, the numbers of rank and file actually composing the corps, with the number of those who are sick on the day of muster, whether they are in general hospitals, regimental hospitals, or sick quarters. These details are all carefully summed in three divisions, for cavalry, infantry, and foot guards; so that the result for any number of years, may be copied out with the utmost facility. It is understood, that at present, there are few, if any in the army, above the age of 45, and that their average age is decidedly under 30. Moreover it is well known, that they are picked and chosen young men when entered; and that those who afterwards become diseased and unhealthy, are discharged from time to time; that they are regular in their habits; free from exhausting labour; from the cares of families; and from most causes which superinduce disease. Their occasional sickness cannot easily be much exaggerated by imposture; and abating the single consideration, that some part of them are perhaps regiments returned from foreign service with debilitated constitutions, it would, on the whole, seem that the army quartered in England ought to present sickness at a minimum among mankind.

Mr. Finlaison had obtained the results for each month in the years 1823 and 1824, which he had combined; the result was,

	The total rank and file present, or accounted for in 24 musters.	Of whom there were constantly sick at the time that the musters took place.
Cavalry,	94,293	3,791
Infantry,	126,513	6,297
Foot Guards,	92,889	3,961
Total	313,695	14,049

So that there were constantly sick of the Cavalry,	4·0204 per cent.
Infantry,	4·9773 per cent.
Foot Guards,	4·2642 per cent.
And of the whole army,	4·478553 per cent.

It further appears, that in the two musters which took place,

	Rank and File.	Of whom sick.		Per cent.
On 25th Jan. 1823 & 24 there were,	24,281	1089	being	4·4850
25th Feb.	25,117	1107		4·40737
25th March,	25,183	1148		4·55862
25th April,	26,157	1220		4·66414
25th May,	26,244	1227		4·67535
25th June,	25,649	1134		3·51190
25th July	25,417	1027		4·04060
25th August,	27,007	1385		4·86911
25th September,	27,416	1340		4·88766
25th October,	27401	1244		4·53998
25th November,	26,840	1135		4·22876
25th December,	26,983	1063		3·93952
	313,695	14,049	being	4·478553

So that for every 100 men sick on 25th June,

There were,	112·176	sick on 25th December.
	115·054	25th July.
	120·412	25th November.
	125·498	25th February.
	127·705	25th January.
	129·274	25th October.
	129·805	25th March.
	132·774	25th April.
	133·129	25th May.
	138·645	25th August.
	139·174	25th September.

But on the whole two years, the rate of sickness is remarkably constant and uniform, and being equal to 4·478553 per cent; this is the same as if 100 soldiers had sustained among them 233 weeks of sickness every year, or as if each had been sick 2·33 weeks.—*Edinburgh New Philosophical Journal*, Vol. VI. p. 291.*

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* In our next, we shall present some of the results obtained from inquiries among Friendly Societies.—*Ed. New-York Med. & Phys. Jour.*

Effects of the Conscription in France.—Mr. Dupin in his late work, "*Forces Productives et Commerciales de la France,*" makes the following statement. From returns presented by the Minister of War in 1826, it appears that of 1,033,422 young men, who had been called before the council of revision for military service, no less than 380,213 were rejected, because they did not reach the low stature of 4 feet 10 inches French, or 5 feet 1¾ inches English. And although more than one-third, of all the youth of military age are thus set aside, it is found, that among the men actuallyserving in the army, 37 in the 100 are below 5 feet 5 inches English; and only 45 in the 100 above 5 feet 6½ inches. This dwarfishness is more prevalent among the inhabitants of the south of France, than among the German, Flemish, and Norman races, that people the northern provinces. Mr. Dupin thinks that this has been produced, or at least aggravated by the conscription. The most robust and vigorous of the young men being drafted off, and destroyed in the wars; an unusual proportion of marriages were made, and families reared by the feeble, the old, and the deformed.—*Foreign Quarterly Review, No. 2.*

UNIVERSITY REGISTER.

[Continued from Vol. VI. p. 631.]

The memorial of Dr. Romayne, (which is dated January 11, 1790,) states, "that in the year 1787 he instituted a College in the City of New-York, for teaching the various parts of science, comprehended in a course of medical education in the most respectable Universities in Europe. That from a commencement naturally small, and difficulties inseparable from the establishment of such institutions, he has now, after great labour and private sacrifices, brought his plans into full effect.

"That during the winter sessions, beginning the first Monday in November, and ending the third Saturday in April, lectures are delivered on the *Practice of Physic*, *Anatomy*, *the Institutions of Medicine*, *Midwifery*, *and Surgery*, and in such manner, that two lectures are delivered a day, five days in the week during the said session. And also, that during the summer sessions, commencing the first Monday in May, and ending the third Friday in August, lectures are delivered in *Chemistry*, *Botany*, *and the Materia Medica;* and in such manner also, that the students of medicine have an opportunity of attending two lectures a day, five days in the week.

"That to promote the said Institution, the Corporation of the city of New-York have been pleased to commit to the charge of your memorialist, the sick in the Alms-house and Bridewell; whose diseases are registered, together with daily reports of the symptoms, the prescriptions, and the effects of medicine, for the farther improvement of the students of physic; and that during the winter session, *clinical lectures* are delivered every Saturday, on cases of the most importance, selected from the number of sick.

"Your memorialist forbears to enlarge on the advantages which may probably arise from the said institution to such of the youth of this state as are engaged in the study of physic, of the neighbouring states, or the United States in general. The peculiar excellence of a medical school must greatly depend upon its connexion with a practical Hospital; the want of which is lamented in seminaries for medical education in Europe, which have obtained degrees of celebrity. And in the United States, though medical instruction is afforded at Boston and at Philadelphia, yet hitherto it is not connected with that practical information, which can only be obtained by diligent and assiduous attention to the sick. Your memorialist therefore prays, that the Regents of the University of the State of New-York will be pleased to take the said College under their protection, and direct such measures with respect to it as in their wisdom may tend to the important end of its institution."

Annexed to this memorial is a list of students for the year 1790, amounting to thirty-seven, and also a list of students attending the Alms-house in the same year, being thirty-five in number.

On the 28th of January, 1791, the Rev. Dr. (afterwards Bishop) Moore, from the committee to whom was referred the above memorial, made a report as follows, and which was agreed to by the Board.

"That in the opinion of this committee, the above mentioned institution for the purpose of diffusing medical knowledge, is well calculated to promote the general good, so far as it depends on this important branch of science, and therefore, that this institution merits the protection of the University.

"That this University be pleased to express their approbation of the same, and cause the resolution containing such approbation, to be entered on their journals.

"That, if consistently with the laws of our institution, no pecuniary assistance can be afforded, the Board will at least appoint a committee to superintend, from time to time, the course of instruction which is given in the above named medical college, and to report at the next annual meeting of the University, what further provision can be made to promote the interest of the same."

The following resolutions were then adopted:

Resolved, "That in the opinion of this University, the above mentioned institution for the purpose of diffusing medical knowledge, is well calculated to promote the general good, so far as it depends on this important branch of science.

Resolved, "That Dr. Linn, Dr. Moore, Mr. Verplanck, Dr. Rodgers, Baron Steuben, and Mr. Clarkson, be a committee to visit the above mentioned school, instituted by Dr. Nicholas Romayne, for teaching the various parts of science comprehended in a course of medical education."

On the 23d of February, 1791, a petition was presented by Sir James Jay, Knt. Samuel Nicoll, William Moore, Nicholas Romayne, Benjamin Kissam, Samuel L. Mitchill, and Richard S. Kissam, Doctors of Physic, praying that they, together with Samuel Bard, John R. B. Rodgers, and William Hammersley, may be incorporated, agreeably to the 7th section of the act to institute an University, passed April 13, 1797, with the powers, in respect to government and property, usually granted to any collegiate society, and with the privilege of recommending to the University, for medical degrees, such of their students as in the presence of the Regents shall pass with credit the several examinations, which are appointed in the most celebrated Universities in Europe, to ascertain the proficiency and merit of the candidates."

The petition concludes as follows:

"The plan which your memorialists have in contemplation, is no other than what gave birth to the most celebrated school in Europe. That it was only to the public-spirited exertions of a few young gentlemen, educated under the immortal Boerhaave, that the medical school of Edinburgh owed its rise, as it now owes to their pupils who succeeded them in teaching, the pre-eminent rank it holds in the learned world. That, educated as your memorialists have been in that school. and honoured as they have been with ample testimonies from thence, of their diligence and proficiency, they flatter themselves that the Regents of the University of New-York will not pay so ill a compliment to American genius, as to suppose that what has been performed by other men, cannot be achieved by their own countrymen."

At the same meeting, a counter memorial signed by John Bard, President, John Charlton, Vice President, and James Tillary, Secretary, of the Medical Society of the State of New-York,* was presented. We shall give this in full.

"This society is just now informed, and not without some degree of regret as well as astonishment, that some medical gentlemen in this city have unadvisedly made application to your Board for an act of incorporation, to constitute them a college of physicians.

"Although we apprehend there is little danger of a precipitate adoption of any measure of this nature by you, yet aware of its important and disagreeable consequences, interested in the prosperity of medical science, and the respectability of our profession, and feeling ourselves in a certain sphere guardians of the harmony and peace of practitioners in the healing art, we cannot suppose it our duty to omit a seasonable interposition, or to hazard in this instance the effects either of surprise or management.

"We are also constrained to observe, that as yet we are unable to conceive of any solid basis upon which those gentlemen applicants could found an elevating distinction in their own favour, which may perhaps prove invidious; a preference, which operates to the exclusion of other medical characters, who might rest their claims either upon seniority, or upon an extensive or established reputation.

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* This cannot have been an *Incorporated Society*; at least we can find no law to that effect.

"It is not without a regard to the honour of the University itself, that we declare it our opinion, that a measure of this kind, particularly at this time, would neither tend to general utility or happiness; to a beneficial influence upon the cultivation of medical knowledge; to the harmony and satisfaction of physicians; nor be consistent with that policy which those who cherish these objects should pursue.

"A plan of medical arrangements is now before the legislature, in which we repose a confidence of extensive utility, and we are therefore jealous of any institution calculated to interfere therewith, or to arrest its operations; such measures have also been taken by this society, to stimulate youth to industry and application, as appear totally to preclude the present necessity of an incorporated College of Physicians.

"It is by no means intended that this memorial should in any degree discountenance a medical school. Individuals who with assiduity prosecute this object, merit every encouragement. The field is open, and there is ample room for the professors of Columbia College to display therein their active abilities."

The above petition and memorial after being read, were committed to Dr. Moore, Dr. Linn, Mr. L'Hommedieu, Mr. Clarkson, and Mr. Verplanck.

On the 2d of March, 1791, a petition from a number of students of medicine was presented, praying that a medical institution might be incorporated, with powers to grant medical degrees. This was also referred to the committee just named.

Mr. L'Hommedieu, then made a report, which after being considered for some time, was postponed until the next meeting. The Board adjourned until the 3d, when the members (present the Chancellor, the Vice Chancellor, Dr Moore, Dr. Linn, Mr. Clarkson, Mr. Tompkins, Mr. Verplanck, Mr. L'Hommedieu, and Mr. James Livingston,) again resolved themselves into a committee on the same subject, and after discussing it, agreed to a report in the following words:

"That in the opinion of your committee, the establishment of a College of Physicians would be an object of great importance to the interest of the community, as it might be rendered singularly useful in promoting medical science, and contribute essentially to the reputation and emolument of the state. It would not only prevent, in the opinion of your committee, the students of medicine in our own state from going abroad for the purpose of acquiring that knowledge and those honours in their profession that they might acquire at home, but would attract the attention of young gentlemen of neighbouring states, who may desire to prepare themselves for the practice of physic with usefulness and reputation.

"Your committee at the same time beg leave farther to report, that the statute instituting an University within this state, does in no instance contemplate the incorporation of colleges or academies for the teaching exclusively of any particular branches of science, however important and useful; and that therefore the Regency cannot consistently take any order on the aforegoing memorial.

"But considering the importance of such institution, your committee are of opinion it would be proper for the Regents to submit this subject to the consideration of the legislature."

Resolved, That the Chancellor be requested to transmit a copy of the aforegoing proceedings to the honourable the legislature.

The legislature appear to have promptly attended to the application, as on the 24th of March, 1791, an act was passed, "*to enable the Regents of the University to establish a College of Physicians and Surgeons within this State.*"

"This act ordains, that the Regents may, if they shall judge it proper and necessary, establish under their common seal, a College of Physicians and Surgeons, for the sole purpose of promoting medical science; to consist of at least thirteen trustees or members, who shall be vested with such powers and privileges, as the said Regents shall judge best calculated to answer the purposes of such an institution; *provided always*, that the amount of the property which the said College shall or may be authorized to hold, shall never exceed in value £60,000 current money of New-York; and that the said Regents reserve to themselves, the right of conferring degrees, and appointing professors or teachers of the several branches of the medical science in the said College; and of filling all such vacancies as shall or may arise among the trustees or members thereof; *provided also*, that any of the trustees of the said College shall, in the discretion of the Regents of the University, be appointed professors and teachers in the said College, any law to the contrary notwithstanding."

The second section enacts, that the College so to be established, shall be forthwith thereafter a corporation; and shall be known by such name as the Regents shall direct and appoint; and shall have full corporate rights.*

The Regents met on the same day that the above bill passed, and it was laid before them by the Chancellor. It was thereupon

Resolved, "That this Board judge it proper and necessary to establish a College of Physicians and Surgeons, pursuant to the authority for that purpose granted to the Regents of the University by the said act.

Resolved, "That the Vice Chancellor, Baron Steuben, Dr. Moore, Dr. Linn, Gen. Clarkson, Mr Verplanck, and Mr. L'Hommedieu, be a committee to prepare a draft of an instrument to incorporate a College of Physicians and Surgeons, conformable to the preceding resolution; and that they report the same at the next meeting of the Regents."

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* Webster's edition of the Laws, 1802. Vol. II. p. 245.

Shortly after, the Board adjourned until the next session of the legislature.

On the 1st of February, 1792, Dr. Linn presented to the Board an extract from the minutes of Columbia College, containing an appointment of a committee from the said trustees, to meet with a committee of the Board of Regents, on the subject of a medical institution, which extract was accompanied with a verbal request to Dr. Linn, to lay the same before the Regents; whereupon,

Resolved, "That when the trustees of Columbia College shall lay before this Board, their report on the subject of a medical institution, alluded to in said extract, and solicit the attention of this Board thereto, it will become the subject of investigation.

Resolved, "That the secretary transmit a copy of the foregoing resolution to the trustees of Columbia College."

On the 8th of February, 1792, "a representation from the trustees of Columbia College respecting a medical institution, was laid before the Board by the Vice Chancellor.

Resolved, "That the Vice Chancellor, Mr. L'Hommedieu, Dr. Linn, Dr. Moore, and Mr. Clarkson, be a committee to confer with the committee appointed by the trustees of Columbia College, on the subject of said institution."

The Vice Chancellor from the said committee, reported on the 15th of February, as follows:

"The committee appointed, &c. report, that they met with the said committee, and were informed by them, that the trustees of said College not only had it in contemplation to institute a medical school agreeable to their charter, as appears by the official papers on the subject, delivered into your Board at their last meeting, but that they had the business much at heart, and were actually proceeding in it as fast as possible. And they do not doubt, but they would be able very shortly to effect it in such a manner, as fully to answer all the important ends designed by the legislature, in the law passed by the legislature at their last session, empowering the Regents to erect such an institution.

"They therefore request the Regents would suspend for the present, any further operations on the subject, until they shall see the effect of the measures which Columbia College is taking on it, which they hoped would be to their entire satisfaction."

It was accordingly

Resolved, "That this Board, agreeably to the request of the trustees of Columbia College by their committee, suspend for the present any further operations respecting a medical institution, till they see the issue of that instituted by said College; and that the committee appointed last spring, for preparing a charter for a medical school, under the law passed at the last session of the legislature, be dismissed.*

"On the 29th of February, 1792, a petition signed by John Bowne Hicks, and fourteen others, students of medicine in the city of New-York, was presented. It stated that they had pursued all the different branches of medicine, as taught in the most celebrated Universities, and now "wish to present themselves in such a manner, and at such times as the Regents may be pleased to direct, that they may be examined by the proper persons, and also perform the usual exercises; and, that if in the opinion of the Regents they be found qualified, such honours of the University of this State may be conferred on them as they may respectively merit, and which in justice they may be found entitled to receive."

The Regents, after duly considering said petition, resolved, that the prayer thereof cannot be granted.

"On the 27th of March, 1792, the Vice-Chancellor, from the committee appointed last year to visit the medical school of Doctor Romayne, reported, that soon after their appointment, some of them did visit it, and were well pleased with his manner of lecturing, and conceived favourably of his plan, and the utility it promised to the public. They further report that Doctor Romayne having, in the month of May last, accepted of an appointment to three lectureships in medicine, by the Trustees of Columbia College, who were at that time meditating a revival of the medical school, your committee conceived that he had by this act placed himself under the immediate patronage of Columbia College, and therefore could not be considered, in the opinion of your committee, any longer as at the head of a distinct school."

In the Annual Report of the Regents to the Legislature, for the year 1792, the following remarks occur.

"When we were preparing, in pursuance of the law, to establish a Medical School, it was signified to us that the Trustees of Columbia College were also engaged in the same business. We have been lately informed that they have accomplished their design. For this reason we have thought it proper for the present to suspend the exercise of the power with which we are invested, till we shall have had an opportunity of observing whether the institution now established in Columbia College be so efficient and permanent as to answer the intentions of the Legislature, and the expectations of the public, with respect to the cultivation of that branch of useful science."

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* An extract from the minutes of Columbia College, which is on file among the documents of 1792, will serve to explain the proceedings of that institution. On the 14th February, 1792, the following medical appointments were made:

Dr. Samuel Bard, Dean of the Medical Faculty.
Dr. Bailey, Professor of Anatomy.
Dr. Nicoll, Professor of Chemistry.
Dr. John R. B. Rodgers, Professor of Midwifery.
Dr. Smith, (Wm. P.) Professor of Materia Medica.
Dr. Post, Professor of Surgery.
Dr. Hamersley, Professor of the Institutes of Medicine.
Dr. Romayne, (who had resigned by letter his appointment of lecturer on Anatomy, Chemistry, and the Practice, to which he had been named in 1791,) Professor of the Practice of Physic.
Dr. Richard Sharpe Kissam, Professor of Botany.

From these extracts it will be seen, that the medical establishment in Columbia College was considered by the Regents as the State School for the cultivation of medicine and surgery. Such, in fact, it continued to be until the year 1807, and it will hence be proper to notice whatever is interesting in its history.

We shall, in the first place, give a list of the professors (in addition to those already named) and extend it for the sake of convenience to the year 1813, when the Faculty of Medicine in Columbia College ceased, most of its members becoming professors in the College of Physicians and Surgeons. Secondly, mention whatever may be deemed important in its interior and public concerns: and, thirdly, present an account of the number of students attending, and the graduates.

1. *Anatomy.*—Dr. Bailey resigned this chair in 1793, and was succeeded by Dr. Wright Post, who held it to 1813.

2. *Chemistry.*—Dr. Nicoll resigned in 1792, and was succeeded by Dr. Mitchill, who held the chair until 1802; Dr. Stringham was then appointed. and continued until 1813.

3. *Obstetrics.*—Dr. Rodgers held his chair until 1808. Dr. Buchanan was his successor, and continued until 1813.

4. *Materia Medica.*—Dr. Smith, (who had also been appointed Professor of Practical Medicine and Clinical Lecturer) died in 1795. He was succeeded by Dr. Hosack, who in 1795 had also been appointed Professor of Botany. Dr. Hosack resigned in 1811.

5. *Surgery.*—Dr. Bailey was appointed to this chair in 1793. He resigned (says one account) in 1811? In 1811 Dr. Mott was appointed Professor, and continued until 1813.

6. *Institutes.*—Dr. Hamersley resigned this Professorship in 1808, when Dr. John C. Osborn was appointed, who held it until 1813. It would also seem that Doctor Osborn was appointed Professor of Materia Medica in 1808.

7. *Practice of Medicine.*—Dr. Romayne does not appear to have accepted, as in 1792 Dr. Nicoll was appointed Professor. He resigned in 1794, and was succeeded by Dr. Smith. Dr. Edward Stevens was also appointed in 1794, but resigned in 1795, when Dr. Hamersley was elected to the chair, which he held until 1813.

8. *Botany.*—Dr. Kissam resigned in 1793, and was succeeded, as we have stated, in 1795 by Dr. Hosack.*

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* We are indebted for the above catalogue of Professors, and also for the list of graduates (given hereafter,) to the *Catalogus Collegii Columbiani, Neo-Ebora-*

2. In the annual report of the Regents, adopted February, 25, 1795, after noticing the faculty of arts in Columbia College, it is added, that "under the faculty of physic, the Dean is lecturer on clinical medicine in the New-York Hospital; and there are the Professorships of Botany, of Anatomy, of the Obstetric Art, of Materia Medica, of the Institutes of Medicine, of Surgery, and of the Practice of Physic. It gives real pleasure to find that this institution, from the number of the professors, their acknowledged abilities, and its excellent apparatus, can afford the necessary instruction in the healing art."

On the 4th of March 1795, the following resolution was adopted.

Resolved, "That the Vice Chancellor, Mr. Verplanck, Mr. Benson, and Dr. Linn, be a committee to examine the anatomical museum in Columbia College, and report their opinion respecting the same."

On the 13th of March, a statement of the wants of the medical faculty of Columbia College, enclosed in a letter from Dr. Samuel Bard, Dean of the faculty, was read. In this paper, the necessity of appropriations for the Professors of Chemistry and Botany, was particularly urged. The former required provision for an apparatus, and for the purchase of minerals; while the latter needed an anatomical museum. The present professor was in possession of a very fine collection, but it was his private property, procured at a great expense. A descriptive general list of the preparations, casts, and books, belonging to this museum, is then given; and it is added, that its value is estimated to be $5000. This, it is proposed, should be purchased. An annual appropriation of $750 for the professor of anatomy, and of $[illegible]00 for the professor of chemistry, is also asked for.

The Regents lent a favourable ear to this application, and on the 16th of March 1785, ordered the following report to be presented to the Legislature.

"The Regents of the University respectfully report to the Legislature, that since their late annual report, they have received a letter from the faculty of physic of Columbia College, enclosing a statement of their wants, copies of which accompany this report. The statement is so full and precise, that a mere reference to it is supposed sufficient, and it is earnestly to be wished that all the objects specified in it might be accomplished. If, however, the Legislature should judge the public means, at this time, competent only to some of them, the Regents then, with due deference, suggest that in their estimation the purchase of the anatomical

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censis, 1815, *and the Catalogue of Columbia College,* 1826. In both of these we find the following, which, lest it may hereafter become a matter of grave discussion, we prefer noticing at this time. Adjoined to the name of Dr Hosack, is "*M. D. Edinburgh.*" We repeat, that this occurs in *both catalogues.* Now we are in possession of the Inaugural Dissertation of David Hosack, by which it appears that he took the degree of M. D. at *Philadelphia* in 1791. We have also carefully examined a complete list of the graduates of Edinburgh, (in the possession of Dr. Wing of Albany,) and cannot find Dr. H's name. We therefore, humbly submit, that the addition of "*Edinburgh*" is erroneous.

museum, a provision for its preservation and for constant accessions to it, and an annual stipend to the professor of anatomy, are entitled to be preferred."

The Legislature do not appear to have acted on this during the current session. In 1796, the subject was again recommended by the Regents to the favourable notice of the Legislature, but with like ill success.

On the 23d of January 1797, a memorial of Dr. Wright Post to the House of Assembly, was by that body referred to the Regents, who appointed Mr. Watson, Mr. Van Vechten, and Mr. Silvester, a committee to consider the same.

On the 13th of February, Mr. Watson from the committee made a report, which after being amended, was adopted in the following words:

"That the memorialist about six years ago, undertook a voyage to Europe for the express purpose of procuring the materials necessary for teaching anatomy in Columbia College, upon an extensive and useful plan—that on his return he supplied the said College with a large and valuable collection of anatomical preparations—that he was at great expense in procuring the said collection, all the objects of which are of a perishable nature and require constant attention, as well as expense, for their preservation—that as a comprehensive medical knowledge is of the greatest importance to the community, and depends on a perfect understanding of the structure and functions of the different organs composing the human body, which cannot be acquired without the aid of anatomical preparations, the exertions of the memorialist to procure the aforesaid collection for Columbia College entitle him to the highest applause, and merit the most liberal encouragement. That therefore, in the opinion of the Regents, it will be advisable for the Legislature to grant during their pleasure to the trustees of Columbia College, the annual sum of 500 dollars, to be appropriated to the preservation of the anatomical museum belonging to the memorialist in the said College, and for procuring additional articles thereto; and for an allowance to the memorialist for his services in the care and charge thereof; PROVIDED that all such additional articles which shall be procured with the said monies, shall become the property of the said trustees for the use of the said College."

The secretary was ordered to transmit a certified copy of this report to the honourable the Assembly.

On the 30th of March 1797, "*An Act respecting Union College and for other purposes therein mentioned*," was passed. The fourth section is in the following words:

And be it further enacted, That the treasurer of this state shall annually, on the first Tuesday of July in each year hereafter, during the pleasure of the Legislature, pay to the trustees of Columbia College, the sum of five hundred dollars, to be appropriated by the said trustees to the preservation of the anatomical museum in said College, and for procuring additional articles thereto, and for making such allowance as they shall judge proper to the professor of anatomy in said College, for his services in the care and charge of such museum.*

In the *Annual Report for* 1799 it is observed, that " the medical school in Columbia College is advancing in usefulness and reputation. By the provision that is made for the support of a professorship in anatomy, the professor in that department is enabled to make this course of instruction very advantageous. The professors of the obstetrical art, the practice of physic, and the materia medica, still continue to labour for the public good, and receive no pecuniary compensation for their meritorious services."

Annual Report 1800. " The faculty of medicine is also languishing, and stands in need of aid and encouragement."

Annual Report 1802. " There are fifty students in medicine, who regularly attend the several professors, (being four in number) and the clinical lectures in the hospital. The professors discharge their respective duties with diligence and success, as appears from the increasing number of students. The growing reputation of the medical school justly merits the attention and encouragement of the Legislature, as the corporation of the College can afford the professors no compensation for their services."

Annual Report 1804. The Regents again ask for salaries for the medical professors.

[*To be continued.*]

UNIVERSITY OF THE STATE OF NEW-YORK.

College of Physicians and Surgeons of New-York.

Agreeably to an ordinance of the Hon. the Regents of the University of the state of New-York, the public Commencement of the College of Physicians and Surgeons was held at the hall of the College on Tuesday the 1st of April.

The President of the College, Dr. Watts, officiated on the occasion, and delivered an impressive charge to the Graduates. The exercises of the day were commenced and closed with prayer by the Rev. Dr. Harris, President of Columbia College.

The following gentlemen having complied with the Laws of the State, and the ordinances of the Regents, and having passed the several examinations required by the Laws of the College, and publicly defended their respective Inaugural Dissertations, were duly admitted to the Degree of Doctor of Medicine.

1. Samuel Boyd, Jun. A. B. of New-York, on *Jail Fever.*
2. Benjamin Drake, A. B. of New-York, on *Fever.*
3. David A. Edgar, of New-York, on the *Temperaments.*
4. George Griswold, Jun. A. M. of New-York, on the *Motion of the Blood.*

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* Webster's edition of the Laws, 1807. Vol. II. p. 246.

5. Wm. Wilmot Kissam, of New-York, *Tetanus.*
6. Daniel Lake, of New-York, *Hydrocele.*
7. Samuel S. Lawrence, of New-York, *Rheumatism.*
8. Elias J. Marsh, A. B. of New-Jersey, *Nature and Seat of Fever.*
9. John M. Pruyn, of New-York, *Hydrophobia.*
10. Israel Randolph, of New-Hampshire, *Cholera Morbus.*
11. Samuel R. Smith, of New-York, *Mucous Membranes.*
12. Morris Snediker, of New-York, *Operation of Cathartics.*

College of Physicians and Surgeons of the Western District.

The Regents of the University, at their meeting on the 29th Jan. conferred the degree of Doctor of Medicine, on the following gentlemen, students of the College of Physicians and Surgeons of the Western District. The subject of the inaugural dissertation of each is added to their names.

1. John Allen, of Otsego co. N. Y.—*the Remedial Powers of nature.*
2. John O. Armistead, of Jamestown, Va.—*Generation.*
3. Augustus Aspinwall, of Cayuga co.—*Intemperance.*
4. Thomas Blackwood, of Seneca co.—*Dysentery.*
5. Daniel Belknap, Jun. of Orange co.—*Dysentery.*
6. Eli Bois, of Massachusetts—*Burns.*
7. A. W. Bowen, of Herkimer co.—*Observations on Theory.*
8. Isaac H. Brown, of Connecticut—*Necrosis.*
9. Joseph Burbeck, of New-Hampshire—*Inflammation of the Liver.*
10 Aaron L. Cady, of Saratoga co.—*Prevention of Disease.*
11. Amos Todd, of Oneida co.—*Atomic Theory.*
12. James L. Cole, of Herkimer co —*Local origin of Diseased Action.*
13. Oliver C. Comstock, jun. of Tompkins co.—*Cynanche Laryngea.*
14 O. W. Crumb, of Otsego co.—*Uterine Hemorrhage.*
15. James Davis, jun. of Ontario co.—*Phrenology.*
16. Francis B. Ethridge, of Herkimer co.—*Apoplectic Intermittents.*
17. Beverley R. Fleming, of Prince Edward co., Va.—*Influence of the Alimentary Canal.*
18. Jeptha Foulks, of Prince Edwards co., Va.—*Sophistication of Medical Theory.*
19. John C. Gorton, of Otsego co.—*Colica Pictonum.*
20. Henry S. Harper, of Otsego co.—*Modus Operandi of Medicines.*
21. John Hawks, of Otsego co.—*Acupuncturation.*
22 Charles B. Howell, of Orange co.—*Sternalgia.*
23. Joseph Huntington, of Vermont—*Leucorrhœa.*
24. Lester Keep, of Massachusetts—*Prolapsus Uteri.*
25. Horatio N. Loomis, of Oneida co.—*Medullary Sarcoma.*
26. David Martin, of Albany co.—*Dysentery.*
27. Denison R Pearl, of Oneida co.—*Sympathies of the Functions.*
28. Franklin Ramson, of Erie co.—*Fevers of Buffalo as they prevailed during the summer and autumn of* 1827.

29. George W. Richards, of Ohio—*Vis Medicatrix Naturæ.*
30. Caius C. Robinson, of Waine co.—*Effects of cold.*
31. S Rodney Stevens, of Herkimer co.—*Pathology.*
32. S. W. Stewart, of Oswego co.—*Venous congestion.*
33. Joseph White, of Monroe co.—*Nervous Derangement.*

The Regents of the University have conferred the Honorary Degree of Doctor of Medicine, upon Dr. Luther Riely, of Harrisburgh, Pennsylvania.

INTELLIGENCE.

The Annual Meeting of the State Medical Society was opened at the Capitol, in the City of Albany, at the usual period, i. e. the first Tuesday of February. It was numerously attended by delegates from almost every part of the State.

PRESENT:

T. Romeyn Beck, *President.*
Laurens Hull, *V. Pres.* Albany
Platt Williams, *Sec'y.* Albany.
Jonathan Eights, *Treas.*
James R. Manley.
David Hosack,
John H. Steel,
James Stevenson, Washington.
Harvey W. Doolittle, Herkimer.
James M'Naughton, Col. Phys. and Surg. Western District.
William Bay.
Peter Wendell.
Thomas G. Evans, Orange.
Henry Mitchell.
John M'Clelland, Columbia.
Samuel Freeman, Saratoga.
Samuel Osborn, New-York.
Charles D. Townsend.
Moses Hale, Rensselaer.
Daniel Ayres, Montgomery.
Bushnell B. Cary, Oswego.
Frederick F. Backus, Monroe,
George Cox, Kings.
Ten Eyck Gansevoort, Steuben.
Cornelius P. Heermans, Tomkins.
Alpheus S. Greene, Jefferson.
Elijah Baker, St. Lawrence.

HONORARY MEMBERS.

Dr. Elijah Porter, President Med. Society, Saratoga.
Dr. J. A. Billings, President Med. Society, Genesee.
Dr. Sylvanus Guernsey, President Med. Society, Madison.
Dr. Truman B. Hicks, Warren, a former Delegate, and now a Member of the Legislature.
Dr. Jonathan Mosher, Washington, a Member of the Legislature.

The following gentlemen were elected officers for the ensuing year:—

Dr. T. Romeyn Beck, President.
Dr. Laurens Hull, Vice-President.
Dr. Platt Williams, Secretary.
Dr. Jonathan Eighths, Treasurer.

PERMANENT MEMBERS.

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Dr. T. Romeyn Beck, Dr. James M'Naughton,
Dr. James R. Manley.

John Lizars. Esq. Surgeon, Edinburgh, and Dr. William Hamersley, of New-York, were elected honorary members.

The Prize Question for the ensuing year, for which the Society offer a premium of $100, is the following: viz.

The History, Causes, and Treatment of Typhus Fever.

The dissertations offered for the prizes to be forwarded to Albany, on or before the 1st of December 1828. They are to be accompanied with a sealed paper, containing the name of the author, and this sealed paper, as well as the dissertation, to be endorsed with the same motto, in order that the name of the successful author alone may be ascertained.

New-York Hospital—From the Annual Report presented to the Legislature on the 18th of February, it appears that its condition, during the year 1827, was as follows:

Remaining on the 31st Dec. 1826,	305	
Admitted during the year 1827,	1926	
Total,		2231

Of this number, there have been

Cured, - - - - - - - - - -	1400
Relieved, - - - - - - - - -	198
Discharged at their own request or that of their friends	102
Improper objects, - - - - - - - -	26

Eloped or discharged as disorderly,	22	
Died,	211	
Remaining Dec. 31, 1827,	272	
Total,		2231

The above includes the insane received into the BLOOMINGDALE ASYLUM. At this institution, there

Remained on the 31st Dec. 1826,	91	
Admitted during the year 1827,	134	
Total,		225

Of these, there have been

Discharged cured,	67	
Much improved,	9	
Improved,	17	
Discharged at the request of friends, not improved,	34	
Died,	9	
Eloped,	4	
Remaining Dec. 31, 1827,	85	
Total,		225

QUARTERLY BIBLIOGRAPHICAL NOTICES.

1. *Pharmacologia; corrected and extended, in accordance with the London Pharmacopœia in 1824, and with the generally advanced state of chemical science.* By J. A. PARIS, M.D. F.R.S. F.L.S. &c. with notes and additions. Third American from the sixth London edition. New-York, 1828.

2. *A Treatise on Diet; with a view to establish, on practical grounds, a system of Rules for the prevention and cure of the diseases incident to a disordered state of the digestive functions.* By J. A. PARIS, M. D. &c. 2nd. edition, 8vo. New-York, 1828.

3. *Annual Report of the Regents of the University to the Legislature of the state of New-York, made to the Senate Feb. 29, 1828.* 8vo. pp. 54. Albany 1828.

This is one of the most elaborate and interesting reports yet published by the Regents of our University. It gives a very flattering account of all the Institutions, both literary and medical, which are placed under their superintending care. Attached to the report is an elaborate summary of meteorological observations, made during the year throughout the state, in compliance with an order from the Board of Regents. This is a valuable document, and we have only to hope that a similar one will constitute a part of every succeeding annual report from this respectable body.

4. *Transactions of the Medical Society of the State of New-York for the year* 1828. 8vo. pp. 64. Albany, 1828.

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5. *A Physiological Inquiry respecting the action of Moxa, and its utility in inveterate cases of Sciatica, Lumbago, Paraplegia, Epilepsy, and some other painful paralytic and spasmodic diseases of the nerves and muscles.* By William Wallace, M. R. I. A. 8vo. pp. 148. Dublin, 1827.

From the author, through Dr. Sterling.

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6. *Researches respecting the medical powers of Chlorine Gas, particularly in diseases of the Liver, with an appendix containing a description of the apparatus used for its administration, illustrated by plates.* By William Wallace, M. R. I. A. Second edition, 8vo. pp. 155. London, 1824.

From the author, through Dr. Sterling. We shall notice these two interesting works in our next.

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7. *The Western Medical and Physical Journal; original and eclectic.* Edited by Daniel Drake, M. D. and Guy W. Wright, M. D. Nos. 9, 10. In Exchange.

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8. *The Boston Medical and Surgical Journal.* No. 1. Feb. 8vo. pp. 16. 1828.

It is with extreme regret, that we learn from an editorial notice in this Journal, that the publication of the New-England Journal of Medicine and Surgery, is to be discontinued. This periodical was first started in 1812, and ranked among its contributors and conductors, the most eminent medical men of the Eastern States. Distinguished more by the *value and originality* of its contents, (we speak now more particularly of the earlier volumes) than by the number of its pages, it continued for a series of years to be conducted with a spirit and ability not surpassed by any Journal in the country, reflecting credit alike upon the conductors and upon the profession. Our regrets at parting with it as an old friend, are sincere.

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9. *Medico-Chirurgical Journal.* Edited by James Johnson, M. D. No. 15. In Exchange.

OBITUARY.

Died on the 28th day of March, 1828, in the 63d year of his age, Samuel Burrowe, M. D. He was one of the oldest of our medical Practitioners, and in his day enjoyed a large share of public confidence and professional character. He practised Physic and Surgery for nearly forty years, having been educated to the Profession under the late Dr. Charles Mc Knight. At the organization of the medical school attached to Columbia College, he was one of the five first graduates in medicine, and the last surviver of them; for many years he was one of the Surgeons of the New-York Hospital, and one of the consulting Surgeons of the Eye Infirmary, from its first establishment in this city.

TO READERS AND CORRESPONDENTS.

1. In commencing a new series of this work, the former Editors cannot deny themselves the pleasure of returning their grateful acknowledgments for the steady and liberal patronage which they have received from their numerous friends and contributors. Six years have now elapsed since this work was commenced, during the whole of which period, they feel conscious of having been actuated by no other desire than that of elevating the medical character, and advancing the cause of medical science in this country. How far they have been successful in the accomplishment of those objects, it does not become them to say, but they have felt enough of encouragement to proceed with unabated zeal in their labours, and to secure still more effectually the great objects held in view, they have associated with them in the editorial department, a number of gentlemen whose character for genius and erudition is too well known to need any commendation. In addition to this, several other distinguished members of the profession have promised the most liberal and extensive assistance. To meet the increase of matter which must necessarily accrue from these arrangements, it will be perceived that the size of the Journal has been considerably augmented, and it is the intention, hereafter, gradually to enlarge it still further, without however *increasing the price of subscription.* With regard to the general plan upon which the Journal is to be conducted, we have only to say, that it will be precisely the same as it has always been. It is to continue to be an *original American Journal*—not professedly, but really such. While, therefore, under the head of Quarterly Improvements in Medicine and Surgery, we shall notice whatever is particularly new and interesting abroad, our main object will be to give a faithful view of what is doing in our own country. There being already published in this country, two Medical Journals, viz. Johnson's Medico-Chirurgical Review, and the monthly Journal of Foreign Medicine, containing the fullest account of what is doing in medicine in other countries, we conceive we should but ill consult the taste or the interest of our readers, by occupying one-third or one half of our pages with imperfect and mutilated transcripts from these Journals. Our subscribers may therefore rest assured, that we shall not resort to this easy and cheap mode of filling up our numbers, and we feel sufficient confidence in our own resources to pledge ourselves to furnish an ample supply of matter, that shall be both original and instructive.

2. Our attention has lately been called to a certain Essay on *Cholera Morbus*, published by a celebrated physician in this city in the year 1791, with a request that it might be duly noticed. We have examined it, and have certainly found it a *medical* as well as a *literary curiosity*. A finer subject for critical dissection could not be offered. For the present, however, we refrain from the task, and hope that circumstances will not render it at all necessary. It is a *benne bouche*, which we may serve up at some future period, should occasion require.

3. Our next number will contain papers from Drs. J. A. Smith, Stens, T. R. Beck, &c. &c.

NEW-YORK

MEDICAL AND PHYSICAL

JOURNAL.

APRIL, MAY, AND JUNE, 1828.

ART. I. *A Lecture on Medical Philosophy, delivered in the College of Physicians and Surgeons, on Monday the sixth of November*, 1827. By J. AUGUSTINE SMITH, M.D. Professor of Anatomy and Physiology in the University of the State of New-York.

[The following Discourse is published partly to correct erroneous impressions of its scope and objects, and partly in the hope that a wider diffusion of the principles which it inculcates will tend to the permanent improvement of Medical Science.—J. A. S.]

GENTLEMEN,

MY name standing first in the numerical order of my colleagues, it has, in consequence, devolved upon me to open the present session of the College. To discharge this duty with propriety, anatomy and physiology, the subjects especially committed to my charge, must be for the time in abeyance. A wider field is to be ranged, and some topic must be selected not less interesting but more comprehensive. Accordingly, I propose to engage you in a discussion sufficiently general and sufficiently important. It is my design to examine into the philosophy which has prevailed, and still prevails, in medicine—an investigation which, in my opinion, is greatly required. For look first at the records of our science, and see how theory, as these whimsies have been termed, has succeeded theory, each rising and glittering, yet bursting in its turn. Observe, then, the actual condition of the profession, and what a scene does it exhibit to those, who feel what their vocation ought to be—who are aware what it is—and who reflect how large a portion of human happiness depends upon the soundness of medical principles and the correctness of medical practice! Every where are we mortified by frivolous disputes and idle conjectures, assertions which are apocryphal and systems which are false; the whole rendered more humiliating and disgusting by a copious admixture of bad feelings and angry passions. But this never can be right—we must have gone astray—we must have failed to observe those dictates of right reason which, as rules of philosophizing, have conducted other inquirers, with serene tempers and kindly dispositions, to certainty and truth. Here then must be the fault; here must be the source of all our errors, our broils, and our contests. OUR PHILOSOPHY IS WRONG AND REQUIRES TO BE CORRECTED.

To induce and to enable you to make this correction, are the objects of the ensuing discourse. In their pursuit, I shall first give you some idea what philosophy really is; I shall next point out the mistakes with regard to it which have been committed; I shall then show you the evils resulting from those mistakes; and lastly, I shall endeavour to deduce from the principles which shall have been established, the means of permanent improvement to the healing art.

To begin then with our philosophy.

When any occurrence attracts our attention, our curiosity is excited, and we wish to understand it. Now an explanation must be sought in one of three several ways. We must simply generalize the fact, or we must resolve it into another fact of a more comprehensive character, or lastly, we must enumerate in the regular order of succession, the circumstances which precede the event under consideration. In the two first cases, our solutions are complete when we arrive at what are called the Laws of Nature, or more properly ultimate facts; in the last, our analysis is perfected when we ascertain the entire series of phenomena which can alone usher in the one which we are investigating.

Such, gentlemen, is philosophy when reduced to its bare elements, and the propositions which express it in this very abstracted form, would admit of much curious illustration. To indulge in this, however, would be too foreign to our present purpose, and a single example under each head must suffice.

Suppose, then, we wish to know why a stone falls to the ground? The reply is, that all bodies mutually attract, and consequently the earth and the stone acting in this manner on each other, are brought into contact. Here you perceive that a fact which is general has been substituted for one that is particular.

But it may be occasionally observed that bodies, instead of approaching the earth, move in an opposite direction, and we may be desirous of knowing whence this proceeds. To satisfy our curiosity, Natural Philosophy demonstrates that the ascent of bodies which are light, is as much the effect of the attraction of which I have spoken, as the descent of those which are heavy. In this case, then, we have two particular and apparently opposite facts resolved into the more general one of gravitation.

Lastly, we sometimes hear it thunder, and the cause of this may be an object of inquiry. In that event, the same science shows us that there is a fluid called electricity; that this fluid is liable to have its equilibrium disturbed; that when this happens, there is a strong tendency in it to pass from those bodies having an excess, to those in which there is a deficiency, &c. In other words, to account for the noise called thunder, we have to enumerate, in the order in which they occur, all the circumstances which of necessity precede the perception of such a sound by the ear.

Now these various modes of explaining the phenomena of the physical or moral world, and the method of investigation with regard to both is the same, agree in some respects, though they differ in others. They all agree in proceeding upon facts and nothing but facts; and they further concur in terminating in facts, of which no other account can be given than that such is the will of the Creator.

But there is a marked distinction in the conclusions to which these different processes lead. If we adopt either of the two first, our results are general. If we employ the last, our inquiries, however far they may be pushed, must always end in particulars. By the first two methods, when carried to their utmost limits, we establish, as I have already observed, the Laws of Nature, and to one of these laws it follows as corollary, there can be no exception. For whoever undertakes to announce such a law, does in reality aver that some fact is universally and invariably true. But if it can be shown, in any one instance, that the supposed fact is not universally and invariably true, the statement of course is false, and the law does not exist. Take the law of gravity to which I have before referred as an example. It is expressed in the following words: "that bodies attract each other directly as their masses and inversely as the square of their distances." Now if it can be proved that there is any one body in the universe, with regard to which this rule does not obtain, there is no such thing as the law of gravity.

To apply this to medicine. Suppose a theorist to lay it down as a law of the system, that the cause of fever is an inflammation of the stomach and bowels,* (the gastro-enterite of the French schools) and any one patient can be produced labouring under this disease, in whom no inflammation of the kind exists, there is an end of the proposition as a law. For independently of what I have already stated, it must be for ever borne in mind, what seems never to have occurred to some speculators in medicine, that one breach in the succession of events, provided it be sufficiently established, is as fatal to our notion of cause and effect, as a thousand such failures. What may be the connexion between phenomena, in virtue of which one follows another, it is not necessary for me to inquire, since it is admitted on all hands that invariability of antecedence is absolutely indispensable to the idea of causation. Mere coincidence, therefore, as regards time and place, however frequent, if not perfectly uniform, is to be held fortuitous and not essential. Now that multitudes of cases of fever have occurred where there was no trace of inflammation of the stomach or intestines, or indeed of any other organ, is as certain as dissection, to say nothing of other proofs, can render any negative fact in the world. What then becomes of Mons. Broussais' law?

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* It is alleged by the friends of Mons. Broussais, that he does not invariably locate his inflammation in the stomach and duodenum. Exceptions to his general proposition are, I suspect, extremely rare in the mind of Mons. B.; but it will be seen that my argument applies to his rule, however modified, and is equally valid, whatever view of his doctrine may be taken.

But to return. The different methods of philosophizing which I have mentioned, have their respective advantages, but they cannot be used indiscriminately. The tendency of the mind is strongly in favour of the second, that is, to refer less general to more general facts. And this, where it can be done with propriety, is commonly the most useful and by far the most gratifying. The discovery, indeed, of a reference of this kind, where the facts are numerous and imposing, and to common observers remote and contradictory, is the most exquisite of all intellectual enjoyments.* No wonder then there should be such a propensity to attempt them. Where however we know and can command all the circumstances upon which any event depends, the event itself is of course under our control, and for practical purposes nothing further can be required. The objection is, that where these antecedent circumstances are very numerous the mind is unable to retain them, whereas a happy generalization will embrace a whole science in a single theorem. But such generalizations I fear are little to be expected in medicine, and as the effort to introduce them is the besetting sin of the profession, and the daily source of incalculable mischief to the public, I must, if possible, guard you against the error. To do this was, indeed, the primary object which I proposed to myself when I determined to engage in the present inquiry. I shall therefore expatiate upon it somewhat at large, explaining first the difficulties attending all grand and comprehensive doctrines in medicine, showing secondly the abortiveness of all the attempts which have hitherto been made to introduce such doctrines into the profession, and lastly exhibiting the pernicious consequences which these attempts have produced, both to us and to others.

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* The "Ἑυρηκα! Ἑυρηκα!" of Archimedes will at once occur to the reader; and I have heard that Dr. Rittenhouse, on one occasion, almost fainted with pleasure at the verification of an astronomical prediction. Every cultivator of science, however, must have felt something of the intense delight which the discovery of truth imparts to the human mind.

In the first place then, in all cases of general disease the nerves are more or less implicated, and wherever these mysterious agents are brought into action, our philosophy is exceedingly apt to be foiled. So long as we confine our attention to the bones, muscles, and blood-vessels, we *seem* to comprehend something of what is going forward; but the moment the nerves become involved, all our *a priori* reasoning is overthrown, and I have sometimes thought that the rule of *contrary* afforded the best approximation to the truth.

Secondly. The most efficient agents in the production of disorders, are not cognizable by our senses. Miasmata and atmospheric poisons give us no notice of their presence. We see nothing but effects, and these effects undergo the most extraordinary mutations without previous warning in the first instance, or assignable cause in the second.

Thus the general character of the maladies which infest our country is inflammatory, but in 1813–14, this type was, without the slightest premonitory intimation, suddenly reversed, insomùch that bark and wine became in my hands the remedies for ordinary pleurisy. We talk, indeed, under such circumstances, as Sydenham did, "of the constitution of the atmosphere." But this amounts to very little, since in what that "constitution" consists we have not the slightest conception.

In the third place, the various influences to which we are subjected, are nearly innumerable. Heat, cold, moisture, drought, different kinds of food and of drink, modes of life, places of abode, feelings, passions, &c. &c. All these are constantly operating upon us, and affecting us to a greater or less degree. Hence the inhabitants of cold countries are unlike those of warm Those who live upon hard and scanty fare, differ from those who are pampered with delicacies. Persons who are secluded and sedentary, are not affected in the same manner with those who are active and exposed, and those who breathe the atmosphere of a crowded city, do not resemble such as inhale the air of the country. In London consequently, and probably in New-York also, stimuli can be used with a freedom which in less populous places would be altogether inadmissible.

Fourthly. There is a principle in all animated beings modifying in a way entirely unknown to us, the action of every agent to which they are exposed, whether remedial or morbific. The existence of such a principle has, indeed, been denied; for in our happy profession, no proposition can be supposed too plain to be contested, (the circulation of the blood has been recently controverted) or too absurd to be maintained. I shall assume, however, that our disorders are sometimes relieved without the intervention of medicine, and as every effect pre-supposes a cause, the power operating in such cases may, I think, be well designated by the phrase, *vis medicatrix naturæ.*[*]

Lastly, every person has a certain individuality about him, physical as well as moral, which constitutes him what he is, and distinguishes him from all others of his race. These idiosyncrasies are what a patient means when he talks of his

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[*] The term re-action is, indeed, frequently substituted; but this is specific, while the former is generic; they cannot, therefore, be used indifferently.

"constitution"—an expression covering an infinitude of quackery and imposition undoubtedly, but still having a real foundation.

To recapitulate. We have causes then innumerable, imperceptible, and ever varying, operating in the dark, through the instrumentality of agents of whose *modus operandi* we are ignorant—these agents themselves not acting precisely alike in any two individuals, and the whole modified by a power of which little more is known than the name. And yet these multifarious elements sometimes concurring, sometimes conflicting, occasionally one of them enjoying the supremacy and occasionally another, are all to be reduced to one solitary principle. Why, in comparison to simplification like this, the dreams of the alchymists were most hopeful philosophy.

The fate of these fantastic schemes, the second head of our inquiry, will not detain us long. Who hears now of the humoral pathology, or the error loci of one school, the spasm of a second, or the excitement, excitability, &c. of a third? But for our books, it would not be known that such notions had ever existed, although they convulsed, in succession, the medical world. Their oblivion, however, is in perfect accordance with the law which ordains that the promptness and certainty of dissolution are always in proportion to the facility and rapidity of production. For nothing is so easy as to construct what is dignified with the appellation of a Medical Theory. The following is the recipe. Take a fact true in one case at least, if it will hold in half a dozen, so much the better. Extend it to all times, places, seasons, persons, and circumstances. Let it embrace every malady that flesh is heir to; let it comprehend the whole human family, including men, women, and children, of every age, sex, colour, condition, and profession, and you have a theory possessing all the usefulness, truth, and stability which so very wise a proceeding can be supposed to confer.

But perhaps you think I have borne rather hard upon the theorists. It is not so, however, as a slight retrospect will show.

Thus it having been ascertained that our fluids are sometimes contaminated, the humoral pathology sprang into existence, and every thing was to be explained by a depraved state of our juices.

This being soon found insufficient, and it being observed that a constriction of the surface frequently takes place in fever, the spasm of Cullen became the cause of all mischief. This has equally passed away, and, not to be tedious, it has been finally succeeded by inflammation of tissues and surfaces, particularly of the stomach and bowels. Gastro-enteritis is accordingly the hobby of the day, destined, I have no doubt, to run the usual course of brief popularity and final oblivion.

But our countryman, Dr. Rush, the warmth of whose temperament carried him at once to the "ultima thule" of simplification, affords, perhaps, the best exemplification of what I have stated. He convinced himself of having attained, what he denominated, that the felicity of the expression might equal the magnitude of the discovery, THE UNITY OF DISEASE. In the fulness of his heart he communicated the sublime idea to one of his old medical friends and correspondents, who shrewd, sensible, and satirical, observed in reply as he informed me, "that one slight difficulty still remained, one little step was yet to be taken, and if Dr. Rush would only add the *unity of remedy*, the grand consummation would be complete." Unfortunately this was beyond the Doctor's power; and we have now, as formerly, to select as we can, from an abundant materia medica, which the chemists, thanks to their labours, are daily rendering more extensive and more efficient.

We come now to the evils which result from these excessive generalizations.

Of these evils the first and undoubtedly the greatest is, the sacrifice of human comfort and human life which they occasion. This I am aware has been controverted, and it has been contended that our practice has been more consistent and sound than our reasoning. This I believe to be true in part, but in part only. For it was observed of Dr. Cullen that in the latter stages of fever, he was endeavouring to relax the spasm of his patients instead of supporting their strength. But this is the merest trifle, in my opinion, compared to the mischief inflicted upon mankind by Brunonianism and its opposite, the sytem of depletion. I know it was said by the friends of the great patron of the latter, that with him the doctrine was innoxious, his good sense correcting, at the bed-side of his patients, the folly of his notions, and that in practice Dr. Rush did not push blood-letting beyond other judicious prescribers. That this may have been true of him, I shall not deny. But how did the case stand with the multitude of young and ardent tempers who were annually turned loose upon the public, with imaginations inflamed by the unmerited and extravagant eulogiums of this favourite remedy? What was the price which the community had to pay, before *their* experience and tact could neutralize so dangerous an error?

2ndly. The promulgation of these fanciful speculations is particularly injurious to the junior part of the profession, who eagerly catch at them, and are thus diverted from the real business of their lives. To talk fluently of membranes, surfaces, tissues, and contra-stimulants, the cant phrases of the day, and the legitimate successors of excitement, excitability, state of the system, &c. is very easy, very captivating, very imposing—and very useless. Whereas to collect dry details, to arrange them methodically, and then deduce by patient and continued thought those inferences upon which the lives of their patients are hereafter to depend, have, in the first instance, nothing to allure the buoyant and impatient temperament of youth, always ready to spurn the earth and wing their way in the clouds, but sadly averse to delve where alone I fear the truth is to be found.

A third ill consequence resulting from these whimsies is the effect which they produce, not only upon the intellect, but upon the very senses of those who pursue them. The authors, and too frequently the supporters of a system, not only *believe* as they wish, but what is really wonderful, *perceive* after the same manner—their minds and their perceptive organs being equally perverted. Accordingly, while such persons see, hear, and credit with the most extraordinary quickness and facility, whatever tends to support their favourite scheme, they have neither eyes, nor ears, nor faith for facts of a contrary description. And hence it is that so many unfounded and conflicting statements get abroad, both in and out of the profession—the multitude seeing, every man through his own glass. Distrust therefore, not the integrity, but the accuracy of all who have peculiar doctrines to maintain: for be assured, that it is by no means unusual for projectors to put forth, with perfect honesty, the most confident assertions which are entirely destitute of truth. Sometimes, however, it is impossible to predicate either truth or falsehood of their propositions—there being no evidence one way or the other. Take Mr. Broussais as an example, and I quote him, not because I think him more culpable than other speculators, but because he happens to be the leading theorist of the day. In the 29th and following sections of his physiology, of which alone I speak, he writes thus: "The ganglionick nerves preside over the interior movements or functions of the viscera which are independent of the brain, they are the grand agents therefore of the living chemistry." "The ganglionick nerves receive and collect the stimulant influence of the cerebral nerves." "The ganglionick nerves avail themselves of the vital force of the animal, for the purposes of this living chemistry." And much more to the same effect, which I need not quote. Now from the calm, serious, and positive tone with which all this is stated, a suspicion of its fallacy would never enter the mind of an ordinary reader. He would take it for granted that every thing was as sound as it is fair, and that Monsieur Broussais was merely applying acknowledged truths to his particular purposes. Yet so far is this from being the case, that in the present state of our knowledge, what Mons. Broussais affirms of the ganglionic nerves, would be equally authentic if asserted of any other of the internal and intangible parts of the body—so entirely ignorant are we of the real uses of the ganglionic system.*

Before I take my leave of Monsieur Broussais, I may remark, that I do not believe he will ever acquire the distinction and influence which some of his predecessors have enjoyed. I think so for two reasons. In the first place, there is, I am persuaded, less proneness in the profession than there was to be *notional*. But secondly and principally, the aphoristic form in which this gentleman has thought proper to clothe his opinions, though very striking at first, is on the whole disadvantageous. *There is an unfortunate perspicuity about it which is fatal.*† Mysticism, or at least a certain vagueness of expression, is indispensable to error. Where our vision is perfect there can be no deception, whereas a dubious twilight gives ample scope for supposed knowledge and real delusion. Moreover, in the midst of uncertainty every man will interpret to please himself. Proselytes are thus readily obtained, and when once engaged, having to contend at least as much for themselves as their masters, their self-love effectually guarantees their adhesion. And lastly, a disputant intrenched in ambiguity, is invincible; for if driven from one covert, he immediately takes shelter in another, saying, "O that is not what we contend for." And this sort of *bush-fighting* is interminable—no proposition being ever admitted which is sufficiently definite to be battered down. Now the ideas and phraseology of Mr. Broussais wanting this convenient degree of obscurity and confusion, his system as an exclusive one, for doubtless the stomach and bowels are sometimes inflamed, will never, I apprehend, acquire any very great vogue.

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* Majendie has torn out all the accessible ganglia without pain or other perceptible consequence to the animal; the physiology consequently of these bodies is as unknown as the composition of the moon.

† Vide the curious discussion in Campbell's Philosophy of Rhetoric, "Why nonsense so often escapes being detected, both by the writer and the reader."—Philosophy of Rhetoric, Vol. II. p. 112.

Let us revert, however, to the evils of such systems. A fourth is this. Facts which are at one time to account for every thing, are soon found to have been magnified beyond their deserts; they are then neglected and ultimately denied. The spasm of Cullen is too recent to be controverted; it is simply unnoticed, whereas the vitiation of our humours is stoutly contested, although the birth of children covered with the pustules of small-pox demonstrates the fact of our fluids being sometimes contaminated.*

There is one and but one more of the mischievous consequences of these wild speculations with which I shall trouble you. It is of a different character from those which I have already mentioned, and in some respects more injurious.

From the long continuance and almost universal prevalence of loose reasoning and rash generalization in the profession, every thing in medicine is yet unsettled. We have no elementary principles in which all are agreed, and we have consequently no conclusions to which all will assent. Whatever approaches to *system*, is in a state of perpetual change and revolution. In matters of detail, indeed, it is otherwise. New facts are observed, and new remedies are added, so that our practice undoubtedly improves, and improves greatly; but beyond this, as to any thing which in legitimate language can be called *theory*, I am not aware there is any material amendment. Those who will theorize, as they term it, tread the same ceaseless round of premises which, if not false, are narrow, and of deductions which, if not altogether unwarranted, are pushed far beyond the truth. But this cycle of error alone proves there is something radically wrong. The toil of thousands, if well directed, must have made some advances. Yet in upwards of twenty centuries, in spite of every thing which numbers, zeal, learning, and talents could effect, how little, how very little has been gained from the terra incognita of systematic medicine? A similar result in the labours of those most ingenious personages the schoolmen, is well known to have convinced Lord Bacon that their philosophy was false. Would that another Bacon might arise, from the same premises deduce the same conclusion, and then regenerate the science of medicine, giving us certainty in our principles, uniformity in our practice, and permanence in our systems!

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* Mr. Abernethy says, that this does not happen earlier than the sixth month of fœtal life. From this it would appear that at this period the communication between mother and offspring becomes more free.

Upon the effects of so delightful a change, could it be accomplished, it is not my object to descant. But there is one benefit that would ensue upon which, as being less obvious, I will offer a few remarks.

The irritability and querulousness of the profession are proverbial and most lamentable. At all times and in all places has it been rent by discord, and divided into parties, sects, and schools. Let half a dozen medical men be required to give their professional opinions to the public, and they certainly disagree about their facts, and almost as certainly fall to calling each other hard names. But assertions, contradictions, and criminations, however well calculated to excite derision and contempt for the parties concerned, do nothing towards the elucidation of the truth. The *Doctors* are therefore very properly set aside, and the matter is disposed of as common sense seems to dictate. That my picture is not overcharged, every one conversant with medical history knows, and those who wish for further information, that I *may not come too near home for examples*, are referred to the discussions which took place in England on the quarantine laws, and the testimony in what is called the Gardner peerage case.

Now this irritability of the profession proceeds in a very great degree, if not exclusively, from the vacillating and dubious state of its principles. Accordingly among those who cultivate the exact sciences, little or nothing of the kind is observable. Among them the certainty which attends every step produces calmness and equanimity, or should a difference of opinion arise, it is settled at once without difficulty or animosity by an appeal to data universally admitted to be true. In medicine all this is reversed. Nothing being determined or fixed, every one is at liberty to construct a system according to his own fancy; and as no employment is more delectable to minds of a certain, and by no means uncommon description than castle-building in all its varieties, these aerial structures of course abound.* Unfortunately, however, *exclusiveness* is the very essence of such schemes, and projectors, like other potentates, "can bear no rival near the throne." Contests and collisions therefore between the parties are unavoidable; and all being equally ready for defence or attack, and alike unprovided with authenticated facts to support themselves or confute their opponents, they are compelled to dismiss reason and logic, and then of course have to rely upon the poor weapons which petulance and passion can supply. The consequences may be readily imagined, and have indeed already been detailed. Let us endeavour then to correct our philosophy, that our manners as well as our minds may be benefited by the reformation.

I have thus, gentlemen, laid before you the deplorable effects of this rash spirit of generalization which has so greatly infested the profession, and which with its consequences, constitutes the true and only opprobrium medicorum.† But before I take my leave of this part of my subject, there are two remarks which I have to make. In the first place I must caution you against supposing that I wish to condemn in the gross the eminent men whose names I have had occasion to mention. So far from this, I willingly acknowledge that they were endowed with great talents, and I further concede, that they were the authors of much good. But with this good was mingled no small portion of evil; and it is to guard you against the one, while you take advantage of the other that I now address you.

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* These *day-dreams*, while they tickle most agreeably the imagination, constitute no tax upon the mind in the way of labour or thought. Were they only as harmless to others as they are pleasant to the individual, the philosopher would smile, but never think of awakening the dreamer.

† Notwithstanding the blot mentioned in the text, the medical escutcheon is one of which any member of the profession may justly be proud. Engaged in the discovery of truth, and in its application to the relief of human suffering, constantly associated with females who constitute much the better portion of the community, and who are then in the situation best calculated for the display and exercise of their virtues, the intellect and the feelings of the physician are equally exposed to the most benign influences. And hence, I presume, it has happened that of those who *mingle much with the world*, a species of contact extremely apt to leave a soil behind it, the best moral exemplars whom I have ever seen have been medical men.

My second observation is this. The opinions which I have now expressed are by no means the hasty conceptions of the moment, dressed up for the occasion. On the contrary, they were my settled convictions long before I could trace and methodise them as I have now done. They arose, indeed, while I was yet a student; and as facts, which produced so deep and permanent an impression upon me, may not be without their influence upon you, I will state the occurrences to which I allude.

When I began the study of medicine, the doctrines of Dr. Rush were all the fashion, and like other young men, I imbibed them fully. Thus impressed I went to London, and walking through the wards of St. Thomas' Hospital not long after my arrival, I saw a patient with a full bounding pulse in a high state of erysipelatous inflammation. Here then was a case requiring, according to my theory, copious blood-letting and other depletions. Yet when I asked the nurse what the man was taking, " Bark," was the reply: *Bark*, said I, and how often? " Every three hours." And in what form? " Powder, tincture, and infusion, the mode in which we use it." You may easily imagine my astonishment. In forty-eight hours I observed to myself, this poor man will be dead. Next day I stopped to see how he was, found to my astonishment that his pulse had subsided under the use of these stimulants, and that he was better. In a few days he was discharged cured. Fact and hypothesis, you thus perceive, were brought fairly to issue, and with a sigh I have no doubt, although I do not now recollect it, the latter was obliged to yield. Had the bantling been my own, instead of having been adopted, the result might have been different. As it was, however, I abandoned my much cherished notions. But I soon found that I was not alone in error—the medical officers of the institution pushing their doctrine as far into one extreme as I had gone in the other. A man broke his leg, and was attacked in consequence with erysipelas: they gave him bark, and in two days he was a corpse.

Conversing on this subject a few years ago with the most eminent member of the profession in our country, I stated the circumstances which I have just mentioned. "Why," said he, "something of the same kind occurred to myself while a student. Going warm from my books with my head filled with Cullen's fine description of a paroxysm of fever, I found a man labouring under a severe attack of it. 'So, my friend,' said I to him, 'you first began to feel sluggish, then cold, and so on.' 'No indeed,' replied the man, 'I felt no such thing. I was never better in my life, when all at once I began to burn, and have been as hot as fire ever since.' I was," he continued, "as much disconcerted as yourself, and became immediately aware that all was not right." That all is not right is certain, and it only remains to render that so which has heretofore been wrong. But on this point I shall be exceedingly brief, as nothing could be more absurd than an attempt to point out new modes of arriving at truth. They are already sufficiently well known; the difficulty being here, as in cases of more importance, not to see, but to follow the straight and narrow path.

Facts, as I have before stated, are the basis of all philosophy; and to ascertain these, is of course the first great object. Now there are four methods by which this can be done—observation, experiment, calculation, and deduction. Of these, calculation is excluded from medicine: we must content ourselves, therefore, with the other three. Of these, the first and second are by far the most important. But experiments, from the peculiar circumstances of the profession, should be attempted with more reserve and caution than I fear are frequently practised. In hydrophobia, tetanus, hydrocephalus, and other equally intractable disorders, the administration of novel and hazardous remedies, provided they hold out a glimpse of hope, is both justifiable and commendable. But as a disease becomes controllable, whether we consider the time in which it can be cured or the ease and certainty with which this can be effected, we are to abstain from tampering with the life or comfort of a patient.

With regard to *inferring conclusions*, whether general or particular, if what I have said do not teach you prudence and circumspection, it were useless to add any thing further. Let me remind you, however, that the reverse of error does not constitute truth. The golden rule of Aristotle, and a most golden one it is, enjoins upon us that virtue is equally removed from ALL extremes. Do not, therefore, in your anxiety to avoid vain and pernicious speculations, become downright empirics—a mistake infinitely less dangerous no doubt and unfrequent than the other, but still a mistake, and therefore to be avoided. I must add, however, that when we observe the manner in which medical investigations have been conducted, and the evils which have thence ensued to the profession and the public, a little extra horror of hypothetical reasoning is, in my opinion, by no means to be censured. Reasoning of this description, be it remembered, even when well founded, and according to Dr. Fordyce it is in every case a million to one that it is false,* is by no means indispensable to the melioration of the healing art. He who should discover a remedy for tubercular consumption, would be quite as great a benefactor to humanity as he who should generalize, with success, the phenomena of fever. Simplification is doubtless desirable, but extension is more so, and these two improvements by no means and of necessity go on pari passu. In astronomy, indeed, this has been remarkably the case. For supposing the heavenly bodies once put into motion, every thing can be traced to the single fact of mutual attraction. But this is a peculiarity in the sublimest of the physical sciences, and admits of no parallel. In chemistry, on the other hand, the most progressive of philosophical pursuits, the reverse has been the fact—the complexity of the science having increased in a full ratio with its utility and importance. The ancients were contented with four elements. These have been discarded altogether, and in place of them we have now fifty, and may hereafter have fifty more. Now a living body may be esteemed a chemical apparatus, exceedingly curious and complicated, and possessed, moreover, of a power to which in mere chemistry there is nothing analogous. Common sense, therefore, seems to me to teach us, that the operations of such a machine must be proportionally involved, and that consequently, any violent simplification of them is necessarily false.

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* He argued thus. On every subject a million of hypotheses may be formed—therefore, it is a million to one against any one hypothesis.

What can be alleged then under this head, may be summed up in a single sentence. It is our business " to observe well, to observe long, and to observe all;" to experiment when allowable with care and accuracy, and from facts thus ascertained, deduce the principles which they warrant.

I have thus I hope, gentlemen, satisfied you of the truth of the propositions which I undertook to establish, " that our philosophy is wrong, and that it requires to be corrected." And I hope you are further convinced, that all attempts at extensive generalizations in medicine are premature, and at this time injurious, and consequently, that for the present at least, we must content ourselves with the third mode of philosophizing which I have mentioned. In other words, that it is for us to detect the *special* causes of disease and to control them and their effects, so far as it may be in our power. And as to the general laws which regulate the operations of the human system, whether morbid or healthy, since no intellect on earth can now detect them, they are to be reserved for one of those superior geniuses, *who, born at a lucky moment,* are destined to shed light and lustre upon the world.

Such, gentlemen, are the conclusions to which we have arrived, and on which I wish your minds finally to rest. But clear as I trust our results are in the abstract, how far they are likely to be adopted in practice, is a question which I almost fear to ask myself. *Our very nature is against them.* Useless silly conjectures, therefore, and vain aspirations after splendid theories, although they degrade the profession, and what is immeasurably worse, although they sacrifice our patients at the altar of our follies, are still too deeply rooted in our dispositions to be readily abandoned. For thus it ever is with the sons of Adam. Prone to evil and averse to improvement, the effort to reform them is of all human undertakings the most forlorn. With the old and the bigoted, the task is absolutely hopeless. But with you, whose minds have yet rereceived no particular taint, and whose only object is advancement in the cause in which you are engaged, the prospect is better. Upon *you* some effect may be produced, and from you, consequently, my colleagues and myself may derive the highest reward which teachers of medicine can ever attain—that their pupils at the close of a long and successful professional career, should look back with pride and satisfaction upon THE LESSONS WHICH THEY IMBIBED FROM THE PRECEPTORS OF THEIR YOUTH.

ART. II. *An Account of some of the Lunatic Asylums in the United States.* By T. ROMEYN BECK, M.D. Professor of Medical Jurisprudence in the University of the State of New-York.

INSANITY, with its causes, its increase and its treatment, is a subject of deep interest to every civilized community. Its peculiar but melancholy characteristic, which forbids any reasonable hope of cure, unless the diseased subject is removed from his home and relatives, imposes the duty on governments of providing for its proper management, both as to safe-keeping and as to the means of recovery. That the legislators of this country and its inhabitants have not been unmindful of this obligation, we shall endeavour to show in the course of the present article.

We shall first notice the Lunatic Asylum of this state.

The "*Society of the New-York Hospital*" was incorporated in 1771; and by the liberality of domestic contributors, the legislature of the province, and contributors in England, sufficient funds were obtained for the erection of a proper building. This was proceeded in with great spirit, but in Feb. 1775, when it was almost completed, it accidently took fire and was nearly consumed.

"By this misfortune, the society suffered a loss of seven thousand pounds; and the execution of their benevolent plan would have been wholly suspended, had not the legislature in March 1775, generously granted them the sum of £4,000 towards rebuilding the house and repairing the loss they had sustained. But the war between Great Britain and the colonies, which took place in the same year, prevented the completion of the edifice. During the war, the house was occupied by British and Hessian soldiers, as *barracks*, and occasionally as an hospital."

The effects of the war and the general derangement of the affairs of our citizens, prevented any attention to the institution, and it was not until the 3d of January 1791, that the house was in a proper condition to receive patients, when eighteen were admitted.

From that time to the present, the munificence of the legislature to this institution has been liberal and unwearied—increasing with the increase of the patients, and the enlightened improvements of its governors. On some future occasion, we may notice the History of the Hospital in detail—at present we have stated the above facts only in reference to the subject before us.

As there existed no institution in the state for the reception and cure of *lunatics*, the governors were induced to appropriate apartments in the hospital for patients of that description. The building, however, not being designed for such a purpose, the accommodations were found to be extremely inconvenient and inadequate; and as the applications for the admission of lunatics constantly increased, it was resolved in 1806, if the legislature would lend its aid for that purpose, to erect a separate building, to be exclusively appropriated to the reception of that unfortunate class of beings.

The application proved successful. A building, denominated the "Lunatic Asylum," was immediately erected in the vicinity of the hospital. This edifice contained 64 rooms, and could accommodate about 70 or 75 patients. It was opened on the 15th of July 1808, under the medical superintendence of Archibald Bruce, M.D.

By an act of the legislature the proper officers in a city or county may contract with the governors of the hospital, for the care and maintenance of any pauper lunatic under their respective jurisdictions, and accordingly many have, from time to time, been sent to it from various parts of the state.

The "Asylum" continued to be the only public institution in this state for the reception of lunatics, until the year 1821, when the "BLOOMINGDALE ASYLUM" was completed. The history of this we shall hereafter notice.

Dr. Bruce continued physician until 1817, when Dr. William Handy was appointed. He was succeeded in 1819 by Dr. John Nielson.

We now proceed to give a detailed account of the numbers admitted and discharged.

	ADMITTED.			DISCHARGED.					
Time.	*Remaining of former years.*	*Admitted.*	*Total.*	*Recovered.*	*Relieved.*	Discharged from various causes, as request or eloped, &c.	*Incurable.*	*Died.*	*Remaining at the end of year.*
From Ja.31, 1795 to Dec.31, 1803		215	215	108	45	35	—	16	11
1804	11	46	57	22	5	12	—	3	15
1805	15	60	75	30	4	13	—	8	20
1806	20	68	88	29	—	31	—	7	21
1807	21	47	68	18	3	19	—	4	24
1808	24	66	90	16	10	16	—	4	44
1809	44	80	124	22	4	48	—	8	42
1810	42	91	133	44	7	16	—	10	56
1811	56	108	164	67	9	14	3	19	52
1812	52	127	179	64	14	25	1	11	64
1813	64	105	169	47	19	27	—	6	70
1814	70	104	174	23	39	14	7	9	82
1815	82	69	151	27	27	14	—	9	74
1816	74	49	123	14	10	18	—	5	76
1817	76	49	125	6	6	34	—	7	72
1818	72	75	147	45	14	13	—	5	70
1819	70	78	148	44	9	24	—	7	64
1820	64	87	151	48	15	17	—	10	61
1821 to July 21st.	61	60	121	26	1	37	—	5	52
		1584		700	241	427	11	153	

Admitted from Jan. 31, 1795, to July 21, 1821,		1584
Discharged, Recovered, - - - - -	700	
Relieved, - - - - -	241	
Discharged, from various causes, as request or eloped, - -	437	
Incurable, - - - - -	11	
Died, - - - - - -	153	
Transferred to the Bloomingdale Asylum, July 21, 1821, - - - -	52*	
	——	1584

CAUSES.—These are not given in the printed reports, with the single exception, that for some years the cases originating in intemperance are mentioned. Thus in

1814 there were	17	from that cause,
1815	9	
1816	4	
1817	5	
1818	27	
1819	26	
1820	27	
1821	32	(13 males and 19 females.)

Total for eight years 147 out of about 670 cases, or upwards of one fourth of the whole number.

The immediate cause of death is also mentioned in ten annual reports, viz. from 1811 to 1820 inclusive.

The whole number of deaths for that period was,		88
Of these there died of Mania, - - -	24	
Mania and Paralysis,	1	
Apoplexy, - -	12	
Phrenitis, - -	2	
Epilepsy, - -	3	
Palsy, - - -	4	
Convulsions, - -	1	

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* We can find no trace of these "52" in the records of the Bloomingdale Asylum. They are not accounted for, as will be seen, in the reports of that institution.

Dysentery, - -	5
Diarrhœa, - -	4
Consumption, - -	14
Pneumonia Typhodes,	1
Marasmus, - -	5
Decay, - - -	1
Debility, - - -	1
Abscess, - - -	1
Gangrene, - -	2
Scirrhous Liver, -	1
Syphilis, - - -	2
Typhus, - - -	4—88

"In consequence of a communication made to the governors, in April 1815, by Thomas Eddy, stating the advantages that might be produced, by introducing a course of moral treatment for the lunatic patients, more extensive than had hitherto been practised in this country, and similar to that pursued at the "Retreat," near York in England, and proposing that a number of acres of ground near the city should be purchased, and suitable buildings erected for the purpose, a committee was appointed to consider of the plan proposed, and to report their opinion thereon. This committee, having approved of the plan and recommended its adoption, the governors resolved to carry it into effect, if they could obtain the aid of the legislature. Application having been made for that purpose, an act was passed on the 17th April 1816, granting to the hospital the yearly sum of $10,000 until the year 1857, to enable the governors to erect further and more extensive accommodations for insane patients." Grounds to the amount of 77 acres and lying on the Bloomingdale road, about seven miles from the city, were purchased, and here the corner stone of a building was laid on the 7th of May 1818. It was completed in 1821.

The building is of stone, three stories high, and contains accommodations for about 200 patients. The land attached to it is laid out in walks and gardens, and when the weather will permit, the patients are allowed to walk abroad, accompanied by the superintendant or one of the keepers. Tame animals have also been procured for their amusement, and innocent diversions are permitted: they are allowed to dine in classes, while religious instruction is from time to time imparted to those who appear able to profit by it.

Dr. John Nielson has been the physician of the BLOOMINGDALE ASYLUM since its opening. There is also a physician resident at the institution, while a sub-committee of governors visit it every week, and a standing committee every month.*

The following details are taken from the annual reports.

ADMITTED.

Time.	*Males.*	*Females.*	*Total.*
From July 27, 1821 to Dec. 31, 1821	75	48	123
1822	66	36	102
1823	83	48	131
1824	77	44	121
1825	102	54	156
1826	97	45	142
1827	107	27	134
	607	302	909

DISCHARGED.

	Recovered.	*Much Improved.*	*Improved.*	*Relieved.*	*By request.*	*Improper objects.*	*Eloped.*	*Died.*	*Unimproved.*
Part of 1821	19	—	—	7	9	3	—	2	—
1822	48	10	12	—	—	—	1	5	18
1823	55	13	20	—	—	—	6	5	14
1824	48	15	12	—	22	—	8	11	—
1825	71	19	23	—	63	—	—	3	—
1826	69	7	11	—	42	—	2	11	—
1827	67	9	17	—	34	—	4	9	—
	377	73	95	7	170	3	21	46	32

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* Annual Report of the Governors for 1821.

The numbers to the end of the year 1827, will stand thus.

ADMITTED,			
	From the 27th July 1821 to the 31st Dec. 1827,		909
DISCHARGED,	Recovered, - - - - -	377	
	Much improved, - - - -	73	
	Improved or relieved, - -	102	
	Discharged by request, - -	170	
	Improper objects or eloped, - -	24	
	Unimproved, - - - -	32	
	Died, - - - - - - -	46	
	Remaining Dec. 31, 1827, -	85	
		——	909

SPECIES OF INSANITY.—There is considerable variety in the arrangement of the species of insanity. We shall state them as given in each report.

	Mania.	*Monomania.*	*Melancholia.*	*Dementia.*	*Imbecility, adventitious.*	*Imbecility, habitual.*	*Idiocy.*	*Hemiplegia.*	*Hypochondriasis.*	*Mania a potu.*	*Furious and melancholy.*	*Fatuous.*	*Imbecile.*	*Total.*
1822	42	—	7	4	—	—	7	1	4	37	—	—	—	102
1823	55	—	21	18	2	14	—	2	—	19	—	—	—	131
1824	42	20	—	17	—	—	2	—	—	40	—	—	—	121
1825	57	36	—	20	—	—	—	—	—	43	—	—	—	156
1826	63	28	—	15	—	—	1	—	—	35	—	—	—	142
1827	82	19	—	—	—	—	—	—	—	—	7	13	13	134
	341	103	28	74	2	14	10	3	4	174	7	13	13	786

Causes.—These are given in detail for one year only, viz. 1826; of 142 cases, there arose from

Bodily disease, - - - - - - -	84
Organic affection of the brain, original or acquired,	4
Hereditary, - - - - - - -	6
Primarily moral, - - - - -	36
Unknown, - - - - - - - -	13

In 1822, 33 cases were from intemperance.
1823, 22 from do.

In the reports, the old and recent cases are distinguished from each other. We are not able, however, to make the ensuing tables perfectly complete, in consequence of the deaths or elopements not being in all cases referred to one or the other. They are generally added, without reference to the length of the illness.

OLD CASES.

ADMITTED.		DISCHARGED.				
Time.	*Numbers.*	*Recovered.*	*Much Improved.*	*Improved.*	*Request.*	*Unimproved.*
Remaining of 1821	65					
1822	29	4	—	6	—	8
1823	58	18	7	13	—	10
1824	70	27	6	9	13	—
1825	67	20	7	15	47	—
1826	49	1	1	4	—	31
1827	42	2	1	3	28	—
	380	72	22	50	88	49

Total, - - - - - - 281
Remaining Dec. 31, 1827, - - 70
——351

RECENT CASES.

ADMITTED.		DISCHARGED.				
Time.	*Numbers.*	*Recovered.*	*Much Improved.*	*Improved.*	*Unimproved.*	*Request.*
Remaining of 1821	18					
1822	73	44	10	6	10	—
1823	73	37	6	7	4	—
1824	51	21	9	3	—	9
1825	89	51	12	8	—	16
1826	93	68	6	7	—	11
1827	92	65	8	14	—	6
	489	286	51	45	14	42

Total, - - - - - - 438
Remaining Dec. 31, 1827, - 15
——453

If to the Old Cases discharged 351
and Recent Cases discharged 453, we add
Deaths, - - - 44
Eloped, - - - 21
——869

We shall have the amount equal to those admitted,
viz. Old Cases - - - 380
Recent Cases - - 489
——869

The proportion of each sex recovered, is given as follows:

	MALES.	FEMALES.		
1822	38	10		
1823	37	18		
1824	41	7		
1825	57	14		
1826	50	19		
1827	53	14		
	276	82	Total,	358
recovered during part of 1821,				19
				377*

The CONNECTICUT ASYLUM was founded through the combined liberality of the legislature and the citizens of the state. It is situated in the city of Hartford; and judging from the engraving prefixed to the third report, the buildings must be large and spacious, and combine all the comforts of a New-England country residence. It was opened on the first of April 1824, under the medical superintendence of Eli Todd, M.D. This gentleman we have heard spoken of by those who know him, as one of the first medical men in his native state; and his success, as we shall hereafter show, is a most satisfactory proof that his qualifications have not been overrated.

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* The following authorities have been used in preparing the above. *An Account of the New-York Hospital*, 8vo. New-York, 1811.—*The Same*, 8vo. New-York, 1820.—*Annual Reports of the Governors of the New-York Hospital to the Legislature from* 1802 *to* 1827. (Journals of the Senate and Assembly for the respective years.)—*Reports of the Bloomingdale Asylum for* 1822, 1823, 1824, 1825, 1826, 1827.

A remark made in the first report strikingly illustrates the value and indeed necessity of establishing lunatic asylums. Many, it is observed, whom it was found necessary, when at home, to confine in chains, became uniformly, in a few days after their admission, orderly and inoffensive, and needed little or no restraint.

The following extract from the report of the visiting physicians, dated May 11, 1827, will enable our readers to judge concerning the mode of treatment pursued in this establishment.

"In respect to the moral and intellectual treatment, the first business of the physician, on the admission of a patient, is, to gain his entire confidence. With this view, he is treated with the greatest kindness, however violent his conduct may be,—is allowed all the liberty which his case admits of, and is made to understand, if he is still capable of reflection, that so far from having arrived at a mad-house, where he is to be confined, he has come to a pleasant and peaceful residence, where all kindness and attention will be shown him, and where every means will be employed for the recovery of his health. In case coercion and confinement become necessary, it is impressed upon his mind, that this is not done for the purpose of punishment, but for his own safety and that of his keepers. In no case is deception on the patient employed or allowed—on the contrary, the greatest frankness, as well as kindness, forms a part of the moral treatment. His case is explained to him, and he is made to understand, as far as possible, the reasons why the treatment to which he is subjected has become necessary.

"By this course of intellectual management, it has been found as a matter of experience at our Institution, that patients, who had always been raving when confined without being told the reason, and refractory, when commanded instead of being entreated, soon became peaceable and docile.

"This kind of treatment of course does not apply to idiots, or those labouring under low grades of mental imbecility, but it is applicable to every other class of mental diseases, whether maniacal or melancholic.

"In respect to the medical and dietetic treatment, it also varies essentially in the main, from the course adopted at other hospitals. Formerly patients labouring under mental diseases were largely medicated, chiefly by emetics, cathartics, and bleeding. At the present time this mode of treatment has given place to intellectual and dietetic regimen, in most

European hospitals. The physician of our Institution has introduced a course of practice, differing from both these, but partaking more or less of each. He combines moral and medical treatment founded upon the principles of mental philosophy and physiology. In one class of cases moral, and in another medical treatment, become the paramount remedies, but in each class of cases, both are combined."

We proceed to an analysis of the cases reported.

Number admitted and Sex.

		Males.	Females.	Total.
1st Year,	from April 1, 1824, to April 1, 1825, -	33	12	44
3rd Year,	from April 1, 1826, to April 1, 1827, -	22	15	37

	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	*Total.*
1st Year,	—	11	11	12	8	1	1	44
3rd Year,	4	17	5	5	4	2	—	37

Species of Insanity.

	1st. Year.	2d. Year.	3rd. Year.
Mania, - - - -	25		24
Melancholia, - -	10		9
Idiotism, - - -	5		—
Hypochondriasis, - -	2		1
Delirium Tremens,* -	2		3
Total,	44		37

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* In the first report, two cases are classified under the name of Delirium *Vigilans*, but as they both originated in intemperance, we have arranged them under the more common appellation of D. Tremens.

Causes.—Of 76 cases, (excluding 5 of idiotism) the causes are given as follows.

Hereditary, - - - - - - -	6
Congenital, - - - - - - -	1
Constitutional predisposition, - - -	2
Intemperance, - - - - - - -	14
Excessive study, - - - - - -	3
Disappointment in business, - - -	3
Disappointed affection, - - - - -	2
Grief, - - - - - - - -	5
Religious excitement or despondency, - -	5
Domestic troubles, - - - - - -	1
Austerity of parental government, - -	2
Agitation on the near approach of matrimony,	1
Puerperal, - - - - - - -	3
Blow on the head, - - - - - -	1
Bodily disease, - - - - - -	6
Excessive venereal indulgence, - - -	1
Long continued typhus fever, - - -	1
Mental and bodily fatigue under a tropical sun,	1
Derangement of digestive functions, - -	2
Unknown, - - - - - - -	16

Results of Treatment.—The cases admitted are divided into recent and chronic. By the former, is understood those whose duration does not exceed one year; while under the latter, are arranged all those in whom the disease has been more prolonged. Thus of 32 chronic cases admitted during the first year, 12 had been insane from one to five years, 8 from five to ten, 6 from ten to fifteen, and 6 from fifteen to twenty. In this number also were included five in a state of helpless idiotism, and 6 in a state of mental decrepitude, admitting neither employment or recovery.

The cases may be arranged as follows.

	Recent.	Chronic.
Admitted 1st Year, - - -	12	32
Remaining of 2d Year, - - -	5	20
Admitted 3rd Year, - - -	23	14
	—40	—66

RECENT CASES.

	DISCHARGED.				REMAINING.					TOTAL.
	Recovered.	*Much Improved.*	*Unimproved.*	*Total.*	*Recovered.*	*Convalescing.*	*Improved.*	*Stationary.*	*Total.*	
1st Year,	5	2	1	8	1	2	1	—	4	12
3d Year including those remaining of 2d year,	25	1	—	26	—	1	—	1	2	28

CHRONIC CASES.

	DISCHARGED.						REMAINING.				TOTAL.
	Recovered.	*Much Improved.*	*Improved.*	*Unimproved.*	*Died.*	*Total.*	*Much Improved.*	*Improved.*	*Stationary.*	*Total.*	
1st Year,	—	7	3	1	1	12	6	5	9	20	32
3d Year, as above,	4	5	5	4	—	18	1	2	13	16	34

The success attending the treatment of the recent cases, is deserving of special attention. " During the last year, (say the medical visiting committee,) there have been admitted twenty-three recent cases, of which twenty-one have recovered; a number equivalent to 91.3-10 per cent.* The whole number of recent cases in the institution during the year, was 28, of which, 25 have recovered, equal to 89·2-10 per cent.

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* In another place it is mentioned, that the twenty-second case is convalescent, with every prospect of rapid recovery.

"At two of the most ancient and celebrated institutions of the same kind in Great Britain, the per centage of recent cases cured, has been from 34 to 54. In our own country, at two highly respectable institutions, the recent cases cured have amounted to from 25 to 51 per cent."

With respect to the chronic cases, Dr. Todd remarks, "that the Connecticut Retreat is opened with a broader latitude of admission than is common to other institutions."

"The far-famed Retreat at York in England, professedly devoted to similar objects, admits no idiots, nor maniacal cases reduced to low grades of mental dilapidation. Of the thirty-four chronic cases stated in the present report, nineteen are of the identical description which would have been excluded by the practice of that excellent institution. The remaining fifteen cases on the list, constituted the whole amount in that class, who were properly within the scope of curative treatment, and of this number, only a few were allowed to remain with us through the requisite term of trial prescribed, in such instances, by most other institutions. Six months' residence in the Retreat, has been thought by many who have placed their diseased friends in the Institution, to be a liberal allowance of time for deciding the question of recovery, in cases of 10 years' duration. As if the chaos of illusions, teeming for years in a distempered imagination, and revived with innumerable repetition, by the unexhausted workings of insanity, might be swept at once from the tablets of the mind, by a professional recipe; or the stormy passions of confirmed madness, already threatening the very foundations of intellect, might be hushed and subdued by the sovereign touch of some Æsculapian trident! He who seeks for events, not in miracles nor in magic, but in the operation of settled laws, will comprehend why years of persevering effort must be required for the cure of long established cases of insanity; and although he ought never to be sanguine in his hopes, yet, if his mind be endowed with a tact to perceive the subtle individualities of a case, and detect them under the disguise of a general character, he will feel that such a case is marked as distinct and separate from its class, and completely exempted from the general rules of treatment and prognosis: should he have learned to distinguish a derangement of mental functions from a destruction of mental organs, where insanity in the one case is disease, in the other death of intellect; then he may occasionally have the unspeakable satisfaction to discover, here and there, a case on the melancholy list, where the still "glimmering embers of a nearly extinguished intellect" may be kindled, and nursed into a clearer and brighter flame, by the delicate and dextrous administration of long continued and well adjusted moral and intellectual remedies.

"After all, it is an affecting truth, confirmed by the experience of nearly all Lunatic Asylums, that, with every advantage of time, means, and skill, the proportion of recoveries in this description of patients, rarely exceeds six or eight in the hundred. With this disheartening fact in view, the Retreat had not ventured to anticipate the good fortune it has realized in the recovery of four out of fifteen cases from this class, amounting to the ratio of 26 per centum. While it unfeignedly deplores the sad destiny of those who still remain unrelieved by its exertions, it cannot but feel consoled and supported by the consideration of its comparative success in a class of cases, where the nearest approach to hope is often only a negation of despair."*

FRIENDS.—The ASYLUM for the Insane near Philadelphia, was founded by that religious denomination in imitation of the "Retreat" at York. It is erected in a retired situation, and on elevated ground, five miles from the city of Philadelphia, and one mile from Frankford. The buildings are of stone, and consist of a centre edifice with two wings. The centre building is 60 feet front and three stories high. The wings are each 100 feet front and two stories high. Long galleries divide the ranges of rooms from each other.

The doors have each a moveable small door in the pannel, to be opened from without. The windows of each room have cast-iron frames, and they are so constructed as to be darkened at pleasure. The edifice is warmed by heated air sent through flues issuing from stoves or large ovens, built in the arches of the basement of each wing.

To the buildings are attached workshops for the patients, and the whole are surrounded by airy grounds.

The patients are classified into the harmless and the violent and noisy; the latter are not allowed to come out of their rooms, while the former eat at table with the superintendant and his family. The diet is uniformly good, no meagre days being allowed,—but neither spirituous nor fermented liquors are permitted. The only modes of coercion are, if neces-

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[*] *Report of the Physicians of the Connecticut Retreat for the Insane, from the opening of the Institution, April* 1, 1824, *to April* 1, 1825.

Third Report of the Directors of the Connecticut Retreat for the Insane, presented to the Society May 11, 1827. Hartford, 1827. 8vo. pp. 11.

No report of the second year has been published.

sary, the shower bath, immersion in water, or the strait waistcoat.

"On every Sunday evening, all the male and female patients, except one or two who are permanently secluded, are collected together in their day-rooms, where a portion of scripture is read to them. This exercise seldom meets with any interruption from them, but on the contrary, there is great silence and quiet."

We have neglected to mention, although that of course will be understood from the name of this institution, that Friends or Quakers only are admitted as patients.

After this brief sketch of the police of the Asylum, we add the following statistical details, given by Mr. Waln.

Admitted,	from the opening of the Asylum in May 1817, to the month of March 1825,		158
Discharged,	Recovered, - - - -	53	
	Much improved, - - -	23	
	Improved, - - - -	17	
	Without apparent change, -	9	
	Died, - - - - - -	21	
Remaining in the house,	- - -	35	
		—	158
Annual average number of patients during eight years,			19¼
Annual average number for five years ending in 1825,			31½
Average number during the year ending in March 1825,			33*

Besides these institutions, there are others of high reputation in the United States, but of which we have not been able to obtain any authentic account. We would particularly mention the asylum connected with the Pennsylvania Hospital. While the late Dr. Rush was in attendance, the cures are said to have borne a very large proportion to the number admitted.

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* *An Account of the Asylum for the Insane, established by the Society of Friends, near Frankford in the vicinity of Philadelphia. By Robert Waln, jun.* (Philadelphia Journal of the Medical and Physical Sciences, Vol. I. New series.)

A brief comparison between the results obtained in our asylums with those of Europe, will form a proper conclusion to this paper. And first of the

PROPORTION OF CURED.

	Admissions.	Cured.	Centesimal proportions or No. cured in every 100.
In the *New-York Lunatic Asylum*, from 1795 to 1821 -	1584	700	44.19
Bloomingdale Asylum, 6½ years,	909	377	41.47
Connecticut Asylum, - -	106	34	31.17
Friends' Asylum near Philadelphia,	158	53	33.54

According to Casper, who has examined the returns from the principal hospitals and asylums in England and France, the mean of cures are as follows:

In France, out of 100 insane, - -	44.81
In England, out of 100 insane, - -	37.40*

We are, however, in doubt as to the propriety of some of the data assumed by this author, and it will hence be more satisfactory to notice the separate reports of institutions.

	Admitted.	Cured.	Centesimal proportion.
In the *Cork Lunatic Asylum*, from Jan. 1, 1798 to June 30, 1818,	1431	751	52.49†
At the *Salpetriere and Bicetre*, in France, the cures amount to 2-5ths of the whole,‡ -			40.00
At *Aversa in Naples*, 10 years, (1814 to 1823,)§ - -			29.70

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* American Medical Review, 1826. Vol. III. P. 13.

† Hallaran's Practical Observations on Insanity, 2nd. edition.

‡ Edinburgh Medical and Surgical Journal, Vol. XXVIII. P. 230.

§ Idem.

At *Bethlem*, London, (1817 to 1820,)* 54.00

St. Luke's, London, (1800 to 1819,)* 46.00

The average deduced in 1817, from the experience of 15 Asylums and Hospitals in Great Britain and Germany, and comprising nearly 14,000 admissions, was† - - - - - - 38.00

Proportion of cured, in Recent and Old Cases.

	Admitted.	Cured.	
Bloomingdale Asylum.			
Recent Cases, - -	489	286	58.48
Old Cases, - - -	380	72	18.94
Connecticut Asylum.			
Recent Cases, - -	40	31	77.50
Old Cases, - - -	66	4	6.06

These may be compared with the result in the

Retreat near York, (from 1796 to 1819.)			
Recent Cases, - -	92	65	70.65
Old Cases, - - -	161	47	29.19‡
Dr. Burrow's Private Asylum.			
Recent Cases, - -	242	221	91.32
Old Cases, - - -	54	19	35.18‡
Glasgow Lunatic Asylum.			
Recent Cases, - -			50.00
Old Cases, - - -			13.00‡

Sex.—This is not distinguished, except in the Bloomingdale and Connecticut Reports. They stand as follows:

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[*] Burrow's Inquiry into certain Errors relative to Insanity, p. 20.

[†] Edinburgh Review, Vol. XXVIII. p. 459. We refer those who are curious on this point, to the extensive tables in the works last quoted. As it would be improper to copy these in detail, we have only selected some of the more general results.

[‡] Burrows, pages 281, 48, and 20.

	Males.	Females.
Bloomingdale, - - -	607	302
Connecticut, - - - -	55	27

In explanation of the great excess of males in the Bloomingdale Asylum, a fact mentioned to me by Dr. Williams of New-York, may be stated. It is, that in the Bellevue Hospital, where the pauper lunatics are confined, the females greatly exceed the males; and probably, if the gross amount of both establishments were taken, the difference would not be great. In Scotland, according to the returns made by the clergy of the established church, the respective numbers in 1818 were as follows:

Males, 2,311. Females, 2,339.

In the fifteen Asylums noticed in the Edinburgh Review, the proportion was,

6,765. 7,356.

Dr. Morison, in his late "*Outlines of Lectures on Mental Diseases*," states, that in Great Britain and France, there are more females insane than males.

Mortality.

	Admissions.	Deaths.	
New-York Lunatic Asylum,	1584	153	1 in 10⅓
Bloomingdale Asylum, -	909	46	1 in 19¾
Connecticut, - - - -	106	1	1 in 106
Friends' Asylum, - -	158	21	1 in 7½

According to Casper, the mortality at

York, - -	is one in nine.
Manchester, -	one in nine.
Montrose, - -	one in four.
Nottingham, -	one in eight.
Exeter, - -	one in twelve.
At Aversa, - -	one in four.
In Paris, - -	one in thirteen.*
At Cork, - -	one in three.

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* Edinburgh Med. and Surg. Journal, Vol. XXVIII. p. 230.

Proportion of Insane to the Whole Population of the State of New-York.—In a former article (New-York Medical and Physical Journal, Vol. V. p. 205.) we mentioned the results obtained from the census of 1825. In a population amounting at that time to 1,616,458,

The number of Idiots was	1421
of Lunatics	819
	2240

Or, 1 in 721.

In Scotland, the proportion is	one in	400[*]
In Paris, - - -	one in	350
In England and Wales, -	one in	2000 (Burrows.)
In London, - - -	one in	600[†]

There can hardly be a question, that the estimate for Great Britain is too low; but even granting it to be the same with London, and thus making the result in our own state more favourable than in foreign countries, still the proportion is one that deserves the serious attention of every philanthropist and statesman. We have but one asylum incorporated by the government for the safe-keeping and management of upwards of 800 lunatics and 1400 idiots, and it has been the practice until very lately to confine many paupers of the above descriptions, either in county jails, or poor-houses, or in private dwellings.

In April 1827, an act was passed by the legislature, forbidding the confinement of any lunatic or idiot in a prison or house of correction; nor is it even permitted to confine in this way a person furiously mad. High penalties are prescribed for violating the law. The utility of these enactments is already witnessed. In the county of Albany, commodious apartments, separated from the main body of the alms-house, have been completed for its pauper insane, and by an act passed in March of this year, the county of Washington is allowed to raise a certain sum of money for the erection of such additional buildings as may be deemed necessary and proper for the idiot and lunatic paupers.

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[*] Casper. Morison on Mental Diseases, 2nd edition, p. 72.

[†] Casper.

Our commendation must, however, end in an acknowledgment of the increased attention paid by the legislature to the proper safe-keeping of this unfortunate class of beings. The system itself is radically defective. It does not make the requisite provision for their cure—it is far from effecting the necessary confinement—it does not sufficiently guard the public from the consequences of furious madness—and finally, it is the most expensive mode of providing for them. The experiment has been tried on a large scale in Great Britain, and to condemn it, I need only refer to the tales of horror and of misery developed by an investigation into the condition of lunatics in county poor-houses.

It is evident that the most humane, the most efficient, as well as the most economical plan would be, for the state to erect in its various great divisions, extensive lunatic asylums, provided with proper medical attendance, and all the safeguards so essential both to the patients and the public. Let these be increased, if the increase of the malady demands it. The burden of their support will fall equally upon all; the success of their treatment which we might reasonably anticipate, would leave vacancies for new cases; and instead of merely, (as at present,) keeping them in custody, to wear out a miserable existence, new trophies might be gained for the medical art, and many valuable citizens restored to their families and the community.

ART. III. *On the effects of respiring Cool Air in Pulmonary Diseases, in a letter to* DANIEL L. M. PEIXOTTO, M. D. By CHARLES DRAKE, M. D. Physician to the New-York State Prison.

New-York, June 1828.

DEAR SIR,

In conversation a few days ago, I promised to furnish you with such facts on the respiration of cool air in pulmonary diseases, as I have been enabled to collect since the publication of my letter to Dr. Smith, in the last number of the American Journal of the Medical and Physical Sciences.

I have employed the remedy in more than twenty additional cases, and in general with effects that encourage me to pursue the investigation. The greater part of these cases were obstinate chronic coughs, that had resisted the routine of ordinary treatment. Some of them had been preceded or attended with pulmonary hemorrhagy, were accompanied with more or less pain or sense of soreness in the thoracic region, with expectoration, and other indications of pulmonary derangement. A part of these might even be considered as cases of incipient phthisis, exhibiting slight and irregular paroxysms of hectic; although the degree of febrile excitement was not considerable in any of them. In all such cases the remedy has invariably stilled the cough, and rendered the expectoration freer and easier: but where the febrile excitement was greater, with serious derangement of the respiratory function and debility of the patient, I have not been so successful. This I attribute, in a great measure, to the labour and fatigue incident to the mode of respiration. At any rate, in two cases of what may be denominated acute phthisis following severe attacks of pneumony, where the pulse was 120 or 130, weak and small, the respiration quick, laboured, and short, with other symptoms of great prostration, I was unable to reduce the frequency of the pulse by the respiration of cool air, although in one case it abated the cough and caused the patient to expectorate with more facility; still, on the whole, I was rather of opinion that it was injurious in both cases, by producing a state of fatigue and exhaustion which they were not able to endure, and I abandoned its further use from an apprehension that the *mode* of respiration was not adapted to their peculiar condition.

Trials were made of the remedy in three cases of advanced phthisis; but I need hardly add, without doing more than merely aiding the expectoration, when the patients could be induced to continue it sufficiently long, which was difficult to do, for they complained that they had not *force to draw* in the air.

In two additional cases of asthma, I succeeded in shortening the paroxysms and in bringing the respiration to its ordinary state in a short time. Whatever objections may be urged against the remedy in pulmonic inflammations, I have no doubt that in very many cases of this disease, it will soon be admitted to be a most valuable means of relief.

I am now in the habit of reducing the temperature of the air much lower than formerly. In some instances I have brought it a few degrees below zero, and always endeavour to bring it as low as 32°. By reducing it very low, its respiration is more agreeable to the patient, and he is not obliged to continue its application so long for a given effect. In general, an hour thrice in the twenty-four hours will be found sufficient: when carried much beyond that extent, it is liable to produce fatigue, and perhaps stimulate from the mere muscular exertion. Doubtless from long use, patients will learn to breathe through a tube with almost as little exertion, as they take in the air in ordinary respiration. Such facility is greatly to be desired, and remains a desideratum as I have employed the remedy.

The effect of cool respiration on the pulse, although not always the same, is on the whole confirmatory of the sedative character of the remedy. Very generally the pulse was reduced in frequency, sometimes as much as 20 or 25 pulsations, provided it was not much above a hundred. I had only two cases in which the pulse was as high as 120; but in these, as I have before observed, I could not find that it produced any reduction.

The apparatus I employ to cool the air is made of tin or zinc, and is placed in a wooden vessel somewhat larger than it, to exclude the external heat, or otherwise enveloped in a layer of charcoal. When I wish to reduce the air below 32°, common salt is mixed with the pounded ice.

The following instance will show the opinion a common observer formed of the efficacy of the remedy on others, and also its beneficial effects in his own person, under circumstances that seemed to forbid its use. A remarkably stout, athletic man, labouring under hemiplegy, with symptoms of cerebral determination and high vascular excitement, was seized in February last, with severe and harassing cough, which was soon attended with copious expectoration, without affording any relief to the pulmonic irritation. The ordinary remedies were employed without benefit, and the man's vigorous habit began to waste under the almost constant cough and copious expectoration. Placed in the room that was appropriated to the cases that were using the cool air, he had constant opportunities of witnessing its effects on others; and finding that his own treatment was doing him no good, he begged that I would allow him to use the cool air also. I explained to him the danger of the remedy in his case; for he had been more than once in the course of the winter threatened with apoplexy, but proposed to give him the advantage of the same means in a modified form, and in a way that would obviate the danger I apprehended.

The weather of last March being remarkably mild and pleasant, I had this man well wrapped in blankets and placed in the open air every clear day, exposed to the influences of the south or west breeze for two or three hours. On returning him to his bed and covering him warmly, a tumbler of milk or water, made very cold, was given him in order to produce a gentle glow on the surface. In the course of a few days, I observed that his cough began to abate, and his expectoration to diminish; and he finally perfectly recovered from his pulmonary affection.

This man's recovery I attributed to the means I employed, but it seems I was mistaken; for a short time before he was removed to the Sing-sing prison, in May last, he confessed to me that he had managed in the night, when the other patients in the room were asleep, to reach the tube of a refrigerator that was near his bed, and that he had used the remedy faithfully every night, sleeping for the most part during the day, until he became entirely cured of his cough. Still I am of opinion, that the exposure to the open air, and the ingestion of the cold fluids, were not without their good effects. Their remedial influences merit from physicians a more serious consideration than they have heretofore received. Much of the benefit derived in chronic pulmonary disease from travel may be justly attributed to the patient breathing a fresher, *stronger air*, as the vulgar term it, than he is ordinarily accustomed to, while his cutaneous surface and the muscular system, are maintained in a state of gentle excitement by the constant and moderate exercise. I experienced a few years ago in my own person, great advantage in a chronic pituitous catarrh, from riding in the midst of winter, exposed the whole day to a severe north-west wind, only observing to keep myself warm by much extra clothing. It is true, that the air in this instance, besides being very cold and dry, was also free from the impregnation of saline particles, which contributes doubtless to render the locality of this city so inimical to phthisical patients. In confirmation of the idea, that even intense cold is favourable to the healthy condition of the respiratory organ, provided the body be kept warmly clad, I will cite the remarkable exemption from pulmonary affections of Captain Parry's company, consisting of ninety-four men, in 1819 and 1820, when they wintered in the Polar Sea ; only one pulmonary case occurring, and that in a constitution previously impaired, besides being scorbutic ; and also the authority of Sir A. Crichton, that phthisis pulmonalis is by no means so frequent in the northern parts of Russia as in Great Britain. On the other hand, that warm and temperate climates, liable to even moderate transitions of temperature, will not procure immunity from pulmonary disease, we have the testimony of writers on southern regions. Dr. Chisholm says, that phthisis is by no means a rare disease in the West Indian islands.

He thinks it is caused by the variable state of the weather, though the degree of cold is never considerable, but lays no stress on the influence of sea air. Dr. James Clark coincides with him in accounting for its great frequency in many of the southern parts of Europe from the same cause. Fodéré, and I think with great truth, attributes its prevalence on the shores of the Mediterranean, to the air imbibing muriatic salts from the sea. Admitting then with Foderé, and other respectable authority that might be quoted, that the air on the sea-shore is invariably prejudicial in phthisis, it becomes a curious and interesting subject of inquiry, to ascertain in what such air differs from the air on mid-ocean, seeing that phthisical cases are so frequently benefited by sea voyages: Or do the good effects arise indirectly from the action induced on the other organs, notwithstanding the prejudicial influence of the sea air on the lungs?

I have heretofore noticed only the temperature of the inhaled air, but it must be evident to every one the least acquainted with these subjects, that the air becomes drier as its temperature is reduced: a condition universally allowed to be favourable to the healthy condition of the pulmonary organ.

These few remarks, which I have been incidentally led to make, require to be much extended and enforced by additional facts, to give the doctrine inculcated, that degree of proof which I believe it to be susceptible of receiving; and it is my intention at some future day, of returning to the subject, when I hope to elucidate my pathological views in a more satisfactory manner than my present means allow.

Respectfully, C. Drake.

Dr. Peixotto.

The following is the communication alluded to in the foregoing. It is an extract of a letter from Dr. Drake to Dr. J. R. Smith of Philadelphia.

"I have no medical intelligence to give you, except it be a plan I have devised for the treatment of pulmonary diseases.

It consists in causing the patient to breathe *cool air*, while the cutaneous surface is maintained in a state of preternatural excitement, by placing him warm in bed, or by enveloping his thorax with some stimulant application. I was led to the adoption of this means, by reflecting on the laws of sympathy, as inculcated by M. Broussais. That eminent physician contends, as you well know, that the sympathies between the skin and mucous membrane of the primæ viæ are direct—that the stimulations of the one are directly repeated in the other; and he hence disapproves of the employment of blisters and other irritating applications to the abdomen, in gastritis, enteritis, &c. On the other hand, he says, that the sympathies between the skin and the mucous membrane of the lungs are reversed—whatever debilitates the former, and repels the blood from its texture, tends to irritate the latter, and produce a sanguineous congestion in the pulmonary organ, a preliminary condition of inflammation. If such be the case, one would naturally suppose that a rational mode of treating pulmonary inflammation, would be, to place the system as far as possible, in a condition the reverse of that which has produced the disease. I have accordingly submitted the plan to actual trial in a number of cases in the state prison of this city, and the beneficial effects that I have uniformly obtained, render me somewhat sanguine of the value of the remedy. I do not believe that it can be solely depended upon in the treatment of acute inflammations, but conjoined with other antiphlogistic means, it may become a powerful auxiliary. Neither do I expect it will prove a remedy for phthisis pulmonalis; for by the time the disease commonly receives this fatal appellation, the pulmonary tissue is so deeply altered and ruined, as to place the disease in very many cases beyond the control of medical agents; but I think it will be found to be of signal service in the early stages of these chronic inflammations. Surely, by creating a general revulsion to the external parts of the system, by means of external heat or other stimuli, and at the same time directly introducing into the inflamed lungs cold, which by its sedative properties is so efficient in allaying inflammatory irritation, and repelling the preternatural flow of blood from inflamed parts, we place the pulmonary organ in a condition well calculated to enable it to throw off the morbid action, and regain its healthy tone and functions. But facts are doubtless better than reasonings on this subject, and I will proceed to relate to you the way in which I submitted my patients to a trial of the remedy, and the results I have obtained from it.

" In order to excite and maintain the action on the surface of the body, the chest was enveloped in a vest padded with wool and lined with fur, and the patient covered warm in bed, or he was placed in a bath heated to 98°, and in this situation caused to inspire, through a tube, cool air brought from the external atmosphere, when the weather was sufficiently cold; otherwise, drawn from a reservoir in which it was cooled to about 40° of temperature, by means of ice. The operation was usually directed to be continued one hour, and repeated thrice a day; but the patients were frequently induced, from the benefits they thought they derived from it, to continue it much longer and to repeat it more frequently. They did not seem to receive any greater advantages from the warm bath than from the other mode of exciting external heat, and as its use was attended with much inconvenience, I have of late seldom employed it. The uncommon mildness of the past winter prevented me from using air lower than 28° of temperature, which of course was raised a few degrees higher by the time it reached the mouth. None of the patients complained of such air being too cold. I found that when its temperature was not higher than 50°, it seemed to make a decided impression, and that about 40° is the temperature that answers the desired purpose very well. I have accordingly of late brought the air to that point; and, from many trials, have no doubt that from four to six quarts of ice, even in summer, will cool a sufficient quantity for a day's consumption.

" It is, I think, during the hot season, when the skin is constantly kept in an excited state, and the other secretory organs are in full play, that the remedy promises to be of more advantage in chronic inflammations than it can possibly be during the cold and variable weather of winter.

"The sensible effects produced by the remedy were tolerably uniform. When the temperature of the inspired air was not above 50° it invariably produced an agreeable sensation of coolness in the chest, occasionally with darting pains extending to the shoulders, which the patients referred to the external and muscular parts. On persisting in the use of the remedy for a long time and repeating it frequently, they sometimes complained of a sense of soreness and fatigue in the direction of the diaphragm, and sometimes also of fulness of the head and vertigo. The most constant effect on the pulse was to render it fuller: when it was preternaturally frequent, it commonly rendered slower; in some instances diminishing it ten to twenty pulsations in a minute; in a few cases, however, especially where it was rather slow, it rendered it somewhat more frequent. It very generally mitigated the cough, diminishing its frequency more than one-half in the course of two or three days, and rendered the expectoration freer and easier, so that the patient would frequently throw it up almost without effort. The effects on the cutaneous function were not less decided: it diminished the morbid heat, and rendered the skin more pliable and pleasant to the feel. The patients that used the remedy to any extent complained continually of great hunger, and it was with difficulty that I restrained them to a moderate allowance of vegetable food.

"Heretofore, in order to give the remedy a fair trial, I have employed it unaided by other means than the observance of low diet, and the benefits resulting have been too uniform and decided to be merely accidental. In one recent case of catarrh, it completely removed the affection in twenty-four hours. In all the old pulmonary cases it has greatly alleviated the disease; and notwithstanding the unfavourable circumstances under which these patients are placed, it still seems to be rendering them service. In one case where the cough was almost incessant, I succeeded, in a few days, in allaying it so much as to enable the patient to sleep quietly all night, and his cough is now comparatively rare and trifling.

In two cases of asthma, of many years' standing, the patients acknowledged that the remedy had afforded them more relief than any other means they had employed. The fulness of the pulse, the muscular pains, and the affection of the head, appear to indicate that the blood is diverted from the thoracic organ, and accumulated in other parts of the body. If such be the case, small and repeated venesections would render the effects of the revulsion from the lungs more permanent, and materially aid in removing the chronic engorgements.

" Dr. Binse, the resident physician of the prison, has attended to the administration of the remedy, and taken copious notes of the progress of the cases, which I shall at some future day condense for publication."

ART. IV. *Description of a new Stop-cock for Gum-elastic Hydrocele Bags and for the Stomach-pump.* By ALEXANDER H. STEVENS, M.D.

THE gum-elastic bag with the common stop-cock, which is commonly employed by the English and American surgeons, is a much neater instrument for throwing an injection into the tunica vaginalis than the syringe, which is, or was, not many years since, used by the French surgeons. Every one who has practised with this instrument, must have depended upon an assistant to close the stop-cock at the moment when he had pressed the contents of the bag into the cavity of the tunica vaginalis, and again to change it when he was about to throw in another bagful. I have seen the surgeon turning the cock with his right hand relax the pressure on the bag, the result of which was, that the injection was partially drawn back.

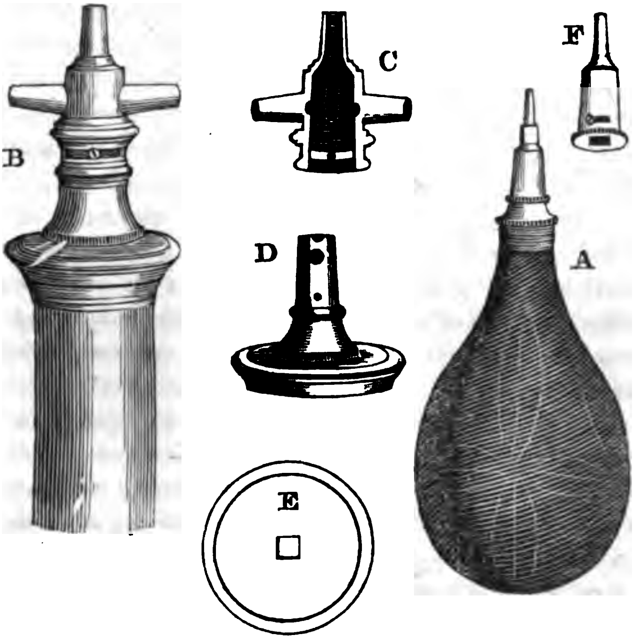
I have seen the left hand, by which the canula should be kept steady in its place, applied to the handle of the stop-cock, and the end of the canula, by this means, slip out of the cavity of the tunica vaginalis, and upon being pushed up, it was thrust into the cellular membrane, which in consequence received the injection; an accident which it is well known is invariably followed by extensive sloughing.

The stop-cock which I offer to the notice of the profession, in contriving which I have been assisted by my late ingenious pupil, Dr. I. Dwight Harris, is very simple in its construction, cheap and portable, and it is calculated to obviate all the defects I have mentioned as appertaining to the ordinary stop-cock. I cannot more briefly describe it than to say, it is a simple pipe, one end of which is fitted to the canula of the trocar, the other and larger end receives another pipe closed at the end which enters the smaller pipe, but having an aperture on one side; the second pipe or hollow cylinder is attached to the gum-elastic bag, and turns within the first. A small groove in the first pipe or a semi-diameter of a very small circle affords a passage to fluids when the hole in the second pipe is turned so as to correspond with the groove in the first; at other times it is closed. Thus the two hands of the operator perform the three steps in throwing in the injection, viz. keeping the canula in place, maintaining a continued pressure on the bag, and closing the stop-cock, which last is effected simply by turning the bag slightly in its long axis. The annexed plate will render more intelligible the structure and management of this instrument.

A, the gum elastic bag, with a brass pipe terminating in a round end fitted to the canula, and having a square shoulder, fitted to a square opening in F, the internal structure of which is shown in figures C and D, except that it wants the lateral pipes of the stomach syringe.

In showing the surgical class the method of removing poisons from the stomach, in the session of 1826 and 7, the experiment was partially foiled by the eyes of the gum-elastic tube becoming stopped up by portions of solid food. To obviate the occurrence of this accident, I had the tube cut off above the eyes, and a perforated hollow ivory ball about half an inch in diameter firmly attached to it.

But the greatest objections to the apparatus for extracting poisons is, that the use of it requires the hands of an assistant as well as of a surgeon. To make this apparatus perfect, it should be made to effect three objects; 1st, To throw a diluting liquid into the stomach; 2d, To remove that liquid with the poisonous matters mixed with it; 3d, To discharge this mixture without removing the pipe from the gum-elastic tube, and without the necessity of employing an *intelligent* assistant. These objects seem to be attained in the instrument represented in the annexed engraving.



B Stomach pump.
C Section of the outer pipe of stomach-pump.
D Section of the inner pipe of do.
E Section of upper cap and piston rod of stomach-pump.

In using the stomach syringe, the lower cap formed by D, inserted into C, is kept steady by the left hand of the operator, whose right hand embraces the piston handle. By supinating the right hand, the piston rod and syringe are turned, and the aperture at D is brought opposite to the right hand tube at C, and the syringe is worked until it is filled with the material to be injected into the stomach. Now the piston rod is to be turned again, until the screw in B is in the middle of the groove, in which it moves on directly upward. Thus the syringe communicates with the stomach, and by another slight turn of the piston may be made to discharge itself through the left hand pipe.

ART. V. *A Dissertation on the Uniform Action of the Absorbents.*

By the late CORNELIUS E. DE PUY, M.D.[*] of New-York.

THAT the action of the absorbents continues UNIFORM throughout every stage of life, and in every condition of the body, whether of health or disease, unless when mechanically interrupted, appears to be almost a necessary consequence to their comparative insulated state, and the independent manner in which they perform their functions. This opinion, which is warranted by an exclusive attention to the nature of the absorbent system, acquires support from a connected view as well as from a detailed examination, of the natural and healthy operation of the other functions of the body; and receives confirmation from the light which the phenomena of diseases shed on the inquiry.

Those who are accustomed to consider the absorbents as the seat of some of the most common diseases, and who daily administer medicines with a view to accelerate their action, and with apparent effect, may at once reject a doctrine as untenable, which appears to be so palpably contradicted by some of the most familiar facts that the practice of medicine offers to common observation. But it is not unusual in medicine for error to assume the garb of truth so speciously as to elude detection, even though it be subjected to daily observation. Perhaps the result of an honest inquiry into the very circumstances which may be objected, and a fair explanation of them, will serve to establish the doctrine against which they may at first appear to militate.

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[*] The melancholy fate of the author of this paper is familiar to most of our readers. The particulars concerning it were detailed in a biographical notice published in the 14th No. of this Journal. The present paper first appeared a few years before his death, but as it is believed that the circulation of it has been rather limited, it is here republished, to gratify the wishes of a number of the surviving friends of the deceased. Whatever opinion may be formed in relation to the doctrines advanced in this production, our readers will have no hesitation to concur with us in awarding to it the meed of talent and ingenuity. ED.

In the progress of the subsequent attempt to prove the Uniform Action of the Absorbents, I shall have frequent occasion to advert to the circulation; and sometimes to infer necessary consequences respecting the nature of the absorbents, from known facts and familiar occurrences which we observe in the action of the blood-vessels. It will therefore be particularly interesting to contrast such peculiarities in those two systems of vessels, as have a more immediate relation to the object of this inquiry; it will show the distinct character of each, and also give a concise and comprehensive view of the fundamental principles on which we intend to rest the doctrine to be supported.

It is well known that the respective offices of these organs are as opposite as they are distinct; that it is the constant exertion of the one to remove that supply which is deposited by the other, in order to repair the waste of its antagonist. But, in examining the circumstances which actually occur, and, in tracing the consequences which would inevitably ensue from a different regulation, we are almost irresistibly led to infer, that the wasting process continues stationary at a certain point of action; and that the vessels by which it is accomplished, must not only be constantly in exercise, but also undeviating and uniform in their operation. This opinion acquires plausibility from a number of proofs, both direct and collateral, which warrant the position, that the absorbents are so singularly constituted, as to be actually incapable of being either accelerated or retarded.

On the contrary, we know that the blood-vessels possess a susceptibility, which gives them a range of action between the two extremes, which occasion mortification from excessive excitement on the one hand, and from direct debility on the other; which also renders them the chief agents in effecting the changes that we observe in the body, and in producing the variety of effects which we know it to suffer.

Both are endowed with that inherent vital energy which nature has originally diffused throughout the animal system. This *vis insita*, as it has been aptly termed, is adapted to the peculiar constitution of each, so as to subserve the different purposes for which they were intended: its degree is doubtless so proportioned, in each, as to constitute a *relative* equilibrium; that in the performance of their particular functions, the *relative* action of both might be consistent with that characteristic temperament of the body, which results from the collective operation of all its powers; and that their individual functions, though distinct, might yet harmonize in the general economy of the animal machine.

But the principle of irritability, in whatever it may consist, appears to be so modified in the circulatory vessels, as to render them susceptible of being excited by a variety of other agents than their *internal*, and truly natural stimulus, the blood; such as the nervous influence, passions, caloric and the numerous class of medicines termed stimulants. This additional susceptibility renders the circulation the chief index by which we judge of the operation of these *external* agents on the system in general. Consequently, as all the other organs (the absorbents excepted) are directly, though more or less remotely, under the control of the circulation, they must also be disturbed, proportionally to their dependence, by the variations to which it is constantly exposed.

The absorbents, on the contrary, in the performance of their functions, have no immediate dependence on the circulation, excepting what is necessary for simple attachment at their termination, nor any intimate connexion with the minor organs. The other powers are successively put into action by the direct impetus of the heart and arteries; but the absorbents have a distinct source of independent motion within themselves. Equally callous to the impression of every external stimulant, and superior to the action of the most powerful narcotic, they imbibe in, perhaps, a peculiar and inexplicable manner, whatever comes in contact with their mouths: re-acting only to the *mechanical* stimulus of their contents, they propel what is thus absorbed, by their own inherent power, unsupported by any *vis a tergo*, and unassisted by that reciprocal aid and common consent, by which the other organs maintain their usual balance, and correct their occasional irregularities. Though they derive their materials of growth from the circulation, and are supposed to be partially supplied with nerves, still they are not invigorated by the one nor stimulated by the other; for they steadily continue their action after the cessation of both. The heart may be the *primum mobile* of the system, but the mouths of the absorbents are its true *ultimum moriens*—vitality continues its vibrations there, after its quiverings have ceased in every other part of the body.*

Thus excluded from the ordinary participations of the system, they uninterruptedly continue their operations, both in health and disease, in excitement or debility, and at every period of life, so that they may be considered an exception to that general rule, which has established a correlative dependence, and an unanimity of action between the other parts of the system. Left to be governed by their own laws, they steadily pursue their uniform course, undisturbed by vascular irregularities, and unaffected by nervous sympathies, amidst all the commotions which frequently confuse the other operations of the body, and, sometimes, irretrievably destroy the harmony of its powers; nor do they droop in its languor, or participate in its debility, whether exhausted by fatigue, enervated by excess, or prostrated by disease: the life which they possess within themselves, maintains its ascendency over the death of the body, till, probably, they are killed by the poisonous quality of its dissolving materials. As a component part of the system, they must ultimately yield to the disorganization and confusion which ensues after death: their energy and structure cannot resist chemical affinity, when it has acquired sufficient power to separate the elementary principles of the animal fibre; and the period of the cessation of their action might probably be fixed at that moment when sphacelus attacks a living part, or putrefaction commences in the dead body.

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* Dissectors, on opening the body, have observed the lacteals, which were at first apparent, to contract and disappear: they are particularly found to be distended if an animal dies, or is killed, shortly after a full meal.

See subsequent proofs that the absorbents are exempted from the agency of external causes.

Hunter relates a case of dropsy, where the patient was 24 hours dying; when the extremities had become cold, the swelling began to subside, the urine to increase, and by the time the patient was dead, the absorbents had reduced them to their natural dimensions.—See *Hunter on Inflammation.*

"They (absorbents) continue to receive and transmit their fluids after the heart and arteries have ceased to beat, and the red blood to circulate"...." after the death of the animal, and after the phenomena of life have ceased."—*C. Bell.*

"Even after death, they (lacteals) expel the chyle."—*Haller.*

Query—Are not dropsical swellings always sensibly diminished after the heart and arteries have ceased to act? Is the thoracic duct always found, on dissection, to be distended?

In stating that the absorbents are only obedient to the stimulus of their natural contents, it was not intended to convey the idea that their re-action depends on any stimulating *quality* of the chyle and lymph. It is more probably produced, and regularly perpetuated, by the bulk of these fluids, operating *mechanically* on the coats of the lacteals and lymphatics, which contract to the stimulus of distention. The capacity of the absorbents is limited to the natural diameter of their tubes, and this is fixed by the unyielding structure of their coats and restraining valves; therefore, the exciting power of distention cannot be made to exceed that determined elevation. But the quantity of fluid in these vessels may be, and often is, less than the capability of their canals to contain; still, as no other stimulus can interfere with that of distention, their contraction must remain uniform as to frequency, though it is variable as to force; for the power exerted is in proportion to the bulk of the distending fluid, which, therefore, in both instances, is propelled with an equal velocity.

It was remarked, that the particular mode of action, by which substances are imbibed at the extremities of the absorbents, is probably peculiar, and perhaps inexplicable.

It has occupied the attention and divided the opinions of eminent physiologists. Want of observation, and perhaps difficulties arising from the very nature of the subject, render any opinion respecting it hazardous; for though plausible, still it must chiefly rest on conjecture. The most prevalent doc-
ne, at present, attributes absorption to a living action of,
t is called, the mouths of the absorbents: but although

the alternate contraction and dilatation, which this hypothesis implies, could be proved to exist, yet it would be inadequate to the effect. It supposes the fluid to rush into the expanded mouths by its gravity; but the lymph could not thus enter the extremities of those absorbents which ascend perpendicularly from the upper part of the cellular cavities, without the assistance of such a contractile or elastic power of the cellular membrane, as does not exist.

Several circumstances accompanying, and consequent to the process of absorption, together with some concurring facts in physiology in general, seem to favour the exploded doctrine of *capillary attraction*. Though it has been satisfactorily proved, that this principle cannot be applied to the whole extent of the absorbent canals, yet the philosophical objections are by no means decisive against its limited application to the extremities of those vessels, leaving the fluid, after being absorbed, to be propelled by an inherent, and, what remains to be proved, an independent muscularity. The structure of these radicles, to which alone the term *absorbent* is justly applicable, appears favourable to the supposition of their intrinsic action. They are composed of very minute and truly capillary tubes,—which soon become enlarged, or rather terminate in the more expanded canal of the main vessel,—where its muscular, or elastic contraction may be supposed to commence. In this respect, they are analogous to the termination of the tubes leading from the puncta lachrymalia to the lachrymal sac. As the action of these puncta must, at least, resemble that of the absorbents, the most obvious effects of the former may assist us in our conclusions respecting the nature of the latter. If the tears were imbibed by a vital action, we should observe a constant motion in the puncta; for alternate dilatation and contraction are the only living efforts by which a fluid can be successively admitted into and propelled by a hollow muscle; we should, therefore, perceive them to open and close in regular succession; because it is required that the impulsive contraction should commence at the surface, or the fluid would necessarily regurgitate at the extremity of the canal. But it is well known that the openings of these puncta are permanently expanded during life, except when (as in introducing Anel's syringe) they are occasionally closed by the surrounding muscular fibres, with which they are evidently supplied to prevent obstruction, to which their exposed situation renders them constantly liable. The weight of the fluid may facilitate its descent through the opening into the lower lid, but no "successive effort of the columns" (*Richerand*) could enable it to ascend into the superior punctum. To say that "the tears are taken up by a real process of *suction*," (*ibid*) is, at best, a very enigmatical explanation. If then capillary attraction is required to explain the phenomena of lachrymal absorption, we may, by referring identical effects to similar causes, deduce from it a just analogical inference respecting the nature of absorption in general.

It may be objected, that the mouths of the absorbents give preference to certain substances in exclusion to others, which are in contact with them at the same time. But the objection itself is too questionable to be admitted as proof against the validity of the doctrine. Instead of that fastidiousness which is so generally, but perhaps gratuitously, attributed to the absorbents, it appears that they take up substances of equal fluidity, with the same expedition, whether they are offered to them separately or in combination. A mixture of various ingredients, of equal solubility, is imbibed without any evidences of an active intelligence, or instinctive impulse in the selection. Acrid medicines are absorbed by the lacteals together with the bland nutriment; and poisons are admitted, by the cutaneous lymphatics, in company with water. The apparent partiality of the lacteals for chyle, and supposed antipathy to fæcal dross, are simply the consequences of the first being composed of that part of the food which is most readily and completely dissolved in the fluids of the stomach, and therefore most easily imbibed. They do not select the chyle from amongst the fluids which the exhalents pour into the intestines, during the operation of cathartics, for it is sometimes distinctly discovered in the fæces. When the contents of the primæ viæ become vitiated, in consequence of improper diet, or a disordered state of the stomach and bowels, the matter, notwithstanding, is absorbed; and often in such quantity as to disturb the system, and even contaminate the whole mass of fluids, as in typhus. In all these instances, instead of any nervous attachments and antipathies, they evince a remarkable indifference and insensibility. The selection of any liquid appears to depend rather on its comparative fluidity, than the exercise of a discriminating choice on the part of the vessels: hence water is sooner taken into the system than any of the fluids that are ordinarily drank. And it is a remarkable coincident fact, that water, according to Martin's philosophical experiments, ascends capillary tubes to a greater height than milk, bile, urine, or any other fluid. This, together with "the exceeding great velocity of capillary attraction," (*Martin*) at the end of the tube immersed, accounts for the speedy removal of repeated large draughts of water from the stomach; and also for the apparent increased absorption when it is injected into the urinary bladder, as in the experiment of Bedingfield. (*Compendium*, p. 242.)

The tenuity* of the substance absorbed appears to influence the quantity removed; which is also in some degree increased when the stomach, bladder, and cellular interstices contain sufficient fluids to maintain a constant plenitude in the absorbent tubes; hence the body acquires weight when exposed to a damp air, and especially when it is immersed in water. But these advantages only facilitate the labour, without accelerating the action of the absorbents, or the progressive advancement of the fluids they convey; therefore, these changes, in the result, can neither controvert nor invalidate the proofs that will be adduced in favour of their uniformity.

The *condition* of the substance acted on is then to be regarded as the cause of occasional variations in the result of the process. The subsequent examination will show, that this principle can also be applied to the removal of the living solids of the body; that it affords a satisfactory explanation of every apparent irregularity in the absorbent vessels, which cannot be attributed to changes and alterations in their action, without admitting irreconcileable contradictions in what may be termed the fundamental laws of the animal economy, and thus create confusion in the grand scale of operation.

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* This is intended as a general rule. It would be difficult to ascertain, whether alcoholic liquors also constitute an exception in animal absorption as they do in the attraction of capillary tubes.

The principal proofs of the doctrine, of which a general statement has been given, require more minute investigation. It will be sufficient to particularize a few of those familiar occurrences which most strikingly indicate that impassive nature and independent action of the absorbents, which enable them to maintain the uniformity they constantly evince.*

When the body is excited by violent exercise, from exposure to high temperature, the use of alcoholic or other medicinal stimulants, and also during a paroxysm of anger, we observe a bloated state of the surface and soft parts beneath. This could not occur if the lymphatics partook of the general excitement, for they would remove the interstitial exhalation, on which the tumid appearance in part depends, as rapidly as it is deposited. The lymphatics not only show an indifference to the agents of this excitement, by remaining unmoved during its violence, but also prove their superiority over the consequent languor; for as mildness of temper succeeds the turbulence of rage, and as sure as a storm of the elements is followed by a calm, so must vascular action subside as far below its ordinary standard, as it was previously excited beyond; and the reflux is attended by a proportionally less quantity of exhalent secretion. This gives an advantage to the uniform absorbents, and enables them to remove the unusual deposite, by their continued action, and reduce the body to its ordinary dimensions, by the time the circulation has recovered its former tone.

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* The doctrine of the uniform action of the absorbents was accidentally suggested, and a number of plausible reasons at first concurred to invite a more particular inquiry. The original manuscript was written without referring to any author but I. Hunter, from whom objections were chiefly anticipated. The numerous facts and acute observations contained in his justly celebrated work on the blood, served, notwithstanding his conclusions to the contrary, to strengthen the opinion. In consulting the opinions of some writers, somewhat particularly, respecting absorption, I have since found that C. Bell suggests a similar idea, in his strictures on Hunter's doctrine: but his observations appear to be at least occasional, if not entirely dictated by opposition, which he seems to have regarded more than the consistency of his reasoning; for whilst he speaks of the probable uniform action of those vessels, he allows them to be subject to the agency of external causes, whereas the doctrine can only be predicated on their impassive nature.

How could the application of a blister, or boiling water, produce vesication, if the cantharides and caloric irritated the extremities of both the lymphatics and exhalents? Would not the increased action of the one remove the redundant secretion of the other? And is not the fact, that the cuticle becomes separated and distended, a convincing evidence that the former is insensible to both? If drastic purgatives also irritated the mouths of the absorbents, would not the latter carry off the extraordinary secretion which the exhalents pour into the intestines, and thus prevent the liquid discharges per anum? The experiments in these instances are perfectly fair. The irritating substances are equally applied to both vessels at the same time and under the same circumstances: the result clearly and decidedly manifests the dissimilarity of character for which we are contending.

The above instances, which embrace some of the most active and diffusible stimuli, and also some of the most powerful external irritants, prove that the absorbents are insensible to the action of stimulants.* But they also appear to be superior to the operation of depressing causes, even the most deadly narcotics.

When opium, or any other vegetable poison, is conveyed into the system from the stomach or surface, the absorbents are not only first exposed to their paralyzing effect, but have also to sustain the attack of their concentrated powers, for they are less diluted than after they have been diffused through the mass of fluids in the circulation, yet these vessels persist in conveying them after they have stupified every other organ, and suspended every other operation.

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* Haller supposes the absorbents to be excitable by chemical stimuli, because they shrink on the application of sulphuric acid; but this more probably is the effect of the constringing quality of the acid, which it equally exerts on dry leather and on the living fibre.—*Elements Phys. Lib.* II. *Sec.* III. §iii.

If the naked body be exposed to cold damp air, or immersed in cold water, the capillary blood-vessels soon become inactive and benumbed, but the increase of weight which the body, according to statistical inquirers, continues to acquire, evinces that the cutaneous lymphatics persevere in their usual operation; and that they are not more affected in consequence of the abstraction, than from the increase of caloric.

The torpid effects of moisture, on the exhalents, is favoured during sleep by the calm, and somewhat languid action of the blood-vessels, and the body in that state acquires weight, though the quantity added by the lymphatics, is the same as when awake; because more is retained than during the exercise of the day; and hence absorption is erroneously supposed to be increased in the night.

The blood-vessels of a paralyzed limb lose their natural vigour, though they continue their action; but its progressive emaciation plainly shows that the strength of its lymphatics remains unimpaired. The different causes of every species of emaciation concur to lessen nutrition, whilst the existing animalized substance is proportionally diminished by the ordinary action of the absorbents. The consequent waste, which, on a superficial examination, appears to be owing to a morbid increase of their action, is only the effect of their unwearied diligence; and proves, that they do not suffer from that general debility, which is frequently the cause, and always the effect, of atrophy.

When the body is reduced to an extreme degree of debility by typhus fever; when a few feeble and indistinct efforts of life are the only remaining evidences of its existence; it is then that the practical physician acknowledges the independent nature and uniform action of the absorbents, by his solicitude to keep the bowels clear and skin clean, that these vessels may have no opportunity to aggravate an evil from which they alone are exempted.

When death is actually progressing, and after every action of the skin has ceased, the cutaneous lymphatics still persevere in removing the thinner parts of the fluid, which exudes through its pores, and cause that clammy and adhesive quality of the matter which collects on the surface, and obscures the sight of the dying patient. It therefore appears to be as erroneous to speak of inactivity and torpor of the absorbents, as it is useless to attempt any direct means to promote their action.

The friction with which external applications are accompanied, to accelerate their absorption, only produce that effect by mechanically bringing the substance in closer contact with the mouths of the lymphatics, in consequence of pressing it between the scales of the cuticle; which promotes the facility of absorption, but not the activity of the absorbents. The cuticle impedes absorption in proportion to the mechanical obstruction it occasions; hence, ointments, &c. are more speedily removed from those places which are habitually moist; where the epidermis is the thinnest, and where it is accidentally abraded. But though there is a difference in the effect produced, yet the real capacity, and perhaps actual exertion of the absorbent mouths, (whatever may be their mode of operation,) may still remain the same over the whole surface; for it is manifest that the effect of the same power must vary if exerted under different disadvantages. Farther, if capillary attraction should be the mode by which fluids are made to ascend the minute extremities of absorbents in general, it is reasonable to suppose that they exert the same force in abstracting the moisture from more solid substances, as on the most perfect fluids; though a greater quantity is conveyed in this instance—minute division facilitates chemical action, yet the absolute affinity between bodies, containing equal quantities of matter, is the same in mass, as when reduced to atoms.

It may be objected to the impassive nature and uniform action of the absorbents, that they are subject to inflammation from animal poisons. But it is not improbable that the peculiarly virulent and subtle nature of these poisons, enable them to excite the surrounding nerves and blood-vessels, through the very thin and delicate coats of the absorbents, and thus inflame the parts in which these vessels are imbedded; and that the pain thereby produced, has been mistaken for an evidence that they are supplied with nerves. But suppose, that the absorbents are really inflamed, in this instance; it follows, that though they possess an increased tendency to act, yet their actions cannot be increased, in consequence of the turgid state of their coats from the injection of red blood.

The natural and healthy exercise of the animal functions furnish numerous proofs in support of the doctrine; and its physiological exposition is perhaps as novel as it is interesting. Without the prolixity of detail, it will be sufficient to examine the causes of the advancement of the body to maturity, and consequent decay; for however the particular actions of the different organs may vary, still the first is one of the grand results of their operation in assemblage;—the second a necessary consequence to the accomplishment of that object.

The progressive stages of life, from infancy to decrepitude; the growth of the body in youth; its stationary condition at manhood, and its gradual decline into old age, present familiar, but interesting appearances. In what manner is the balance of the absorbing and secreting vessels affected during the increase and waste of the body? Why do they acquire an alternate preponderance at different periods of life; and what causes the softness of texture in infancy, the firmness of fibre at manhood, and the rigidity of age? The vague references of physiologists to the activity, vigour, and languor of *vascular* action, without determining both the absolute and relative agency of each system of vessels concerned; their remote and indefinite allusions to cause and effect, leave the explanation of the phenomena as unsatisfactory, as if they had attribited them to the arbitrary result of pure necessity.

If the sanguiferous and absorbent systems both possessed the same degree of excitability, and were equally susceptible of the impression of external stimulants, there would continually exist an equable balance of action between the vessels which supply and those which remove; the action of both would be equally excited, in the early part of life, and sink, *pari passu*, into its decline; therefore no increase of bulk could occur in the former stage, nor that gradual diminution of matter which happens in the latter; consequently, the size of the body would remain stationary throughout, and we never could emerge from the state of embryo. It is well known, that nourishment and growth is accomplished by the assimilating power of the blood-vessels, still I do not know how we are to avoid the above ridiculous conclusion, unless we admit that the impassive nature, and uniform action of the lymphatics give the circulation the necessary ascendency. Grant this, and the process of animalization developes itself, with its whole train of consequences, and exhibits a more fair and definite character of some of those grand principles which form the basis of physiology.

The natural susceptibility and activity of youth give the assimilating organs the proponderance at this age; an increase of size is the consequence; but in order to proportion the different parts, so as to give symmetry to the whole, nature has conferred more or less activity on the blood-vessels of particular parts, together with the peculiarity of office which distinguishes each organ. As we approach the climacteric period of manhood, the mobility of the blood-vessels gradually settles into a more steady mode of action, in proportion as the system becomes less sensible to habitual impressions, and as the fibre acquires a denser structure and firmer tone. The less frequent, and more inconsiderable irregularities of the circulation, counterbalance each other, and leave a medium of action in unison with that of the absorbents. An equilibrium then exists between the two: the waste produced by the one is repaired by the additions brought by the other, and the quantity removed is equal to the supply. But the blood-vessels cannot maintain themselves at the equable standard of the absorbents; for subsequent debility must follow previous excitement—a law, in which the animal body, with all nature, must acquiesce. The active exertions and rapid advancement of youth, as necessarily lead to the decline and imbecility of age, as subsequent languor is certain to follow the temporary exhilaration of ebriety: hence longevity is rare, where temperament or climate causes an early and rapid evolution of the organs; and speedy maturity, throughout all animated creation, denotes a short existence. Consequently, in advanced life the circulation begins to be enfeebled; many blood-vessels become impervious, and whole organs are gradually obliterated; digestion also becomes impaired, and nutrition is consequently imperfect; the circulation being incapable of supporting the *peculiar secretion (Haller)* of the lymphatic glands, these for want of excitement are often entirely removed; the uniform action of the lymphatics gives them a proportionate ascendency; the more fluid part is first carried off; hence the solids become more dense, which again impedes the operation of the declining powers; the whole body shrinks, till the furrowed brow and wrinkled visage leave traces of a waste which the blood-vessels are unable to repair. Corpulency sometimes supervenes—"a kind of *imitation* of real growth." *(Haller.)* But the decrepitude of age, and the approach of natural death, are not retarded by this delusive appearance; the struggling energies of life, unequal to the burden, often yield the sooner to its pressure. The apparent effects of natural decay may also be obviated for a time by goading the blood-vessels to an extraordinary exertion by additional or more powerful stimulants; but the expedient only hastens exhaustion, and renders the body an earlier sacrifice to death. The duration of life, unless prematurely arrested, is limited to the established bounds of that original capacity with which nature has endowed the constitution; and its period will be shortened or protracted according to the profusion or economy with which we spend the determinate measure of inherent energy; though its enjoyments, like the transports of intoxication, may render us unconscious of its actual consumption, and regardless of the future consequences, yet the latter will eventually occur, as surely as the former is in present operation.

The steady persistance of absorbent action is also remarkable in the disappearance of those parts which are only designed for temporary purposes, as the thymus gland, membrana pupillaris, alveolar processes, &c. The idea, that a new activity is conferred on the absorbents, for the removal of these parts, does not accord with the usual simplicity of nature. It supposes the blood-vessels to continue an useless labour; for the object may be more directly and expeditiously accomplished by diminishing the customary accretion. "Inutility, debility," &c. *(Hunter,)* are the assigned causes of such absorption. It is consistent with known laws, that such direct sedatives, as they must be, if their agency is not wholly ideal, should operate by paralyzing the nerves and impairing the action of the blood-vessels. But it requires an effort of credulity to suppose, that whilst they depress every other power, they at the same time stimulate the absorbents. This implies an effect directly opposed to their natural tendency—a contrariety of qualities, and a nature discordant with itself: or, a lawless disposition on the part of the absorbents, to act in direct opposition to principles which universally obtain in the organized fibre. In support of the probability of the first mode, and improbability of the second, it is only necessary to direct the attention to the abundant proofs, already advanced, that the absorbents are not under the immediate control, nor indirect influence of any accidental cause, whether of a depressing or an enlivening nature.

Pathology unites its testimony to the preceding facts, in favour of the doctrine. The causes, symptoms, and consequences of some of the most common diseases, unitedly point to the Uniform Action of the absorbents. If we regularly trace the progress of those diseases through their different stages, and then take a retrospective view of all their phenomena, in connexion with the sensible effects of the remedies usually administered, we find ourselves conducted to that conclusion, as if to an unavoidable and necessary result.—A brief examination of the nature and treatment of a few of those diseases, in which the absorbents are supposed to be particularly and primarily concerned, will not only elucidate the doctrine, but also show the extensive pathological application of the principles it embraces.

The commencement, progress, and termination of what is termed *healthy inflammation*, are replete with facts illustrative of the subject in question. I will only direct the attention to a few of the most prominent. The exciting causes of inflammation are all stimulants, and sometimes excite such violent action in the blood-vessels as to disorganize the structure of the part affected. But the absorbents so completely resist the most intense and concentrated exertion of their power, that the calm and steady action of these vessels is not even noticed amidst an excess which transcends their fixed standard; hence the tumefaction, (so far as it depends on increased interstitial exhalation,) which their uniform action renders them unable to prevent. But when the strength of the blood-vessels is spent in the inordinate effort, and they are sinking into consequent indirect debility, it is then that the absorbent action becomes more or less apparent, according to the degree to which the circulation subsides below its healthy range.

The terminations of inflammation may truly be considered as indicative of the condition of the blood-vessels; therefore adhesion, suppuration, ulceration, and mortification, may with propriety be regarded as general terms, denoting different stages, and serving to express the strength which the circulation retains, or the debility to which it is reduced, without reference to any change in the mode, or increase of absorbent action. The progress of these terminations is accelerated or retarded, and the appearance of each is diversified by peculiarities of constitution, and by the interference of a variety of accidental causes, which it would be irrelevant to enumerate: the influence of which, on absorption, is to be estimated from their tendency to increase the debility of the blood-vessels. When the strength of the system or a part gradually fails, integrity of structure is maintained under the progress of absorption; as in general emaciation, the removal of the thymus gland, &c.; but when vitality, from excessive action or any other violence, is speedily reduced to the verge of extinction, or becomes exhausted beyond the ability of the blood-vessels to furnish an adequate supply to preserve the organization of the part entire, then the progressive and unresisted depredations of the absorbents not only produce a diminution of bulk, but also an erosion and separation of parts: an ulcer is the consequence; which extends more rapidly, as the debility of the part approaches nearer to mortification. And when mortification actually occurs, the absorbents give new proofs of their unremitting perseverance in the speedy separation of the dead and living parts, as soon as the blood-vessels have acquired sufficient strength to arrest the progress of decomposition. It appears, therefore, improper to consider ulceration as "a *substitute* for mortification," *(Hunter :)* it only indicates an approach to that condition.

Hence it appears to be incorrect to employ the terms, *progressive*, *interstitial*, and *ulcerative* absorption, to designate a change of condition, or peculiarity of action in the absorbent system, since these different appearances are essentially imputable to a comparative deficiency in nutrition. The real state of the ulcerated part teaches, that the supposed increase of absorption is only apparent; that *ulcerative* absorption is not "a *morbid* process," *(Thompson,)* but a natural, and in itself, salutary action, apparently rendered morbid by the *unhealthy* condition of the part in which it is exerted; and that absorption, though the proximate, is not the *morbid* cause of ulceration. If increased absorption were the most efficient cause of ulceration, then the matter from an ulcerated surface would only vary as to its degree of consistence; but as there is an evident change in its quality, corresponding to the slower, or more rapid progress of the ulcer, it follows that the secreting exhalents are chiefly concerned in the diseased process.

The exciting causes of every species of ulceration which Hunter enumerates, have all a tendency to produce that debility which he admits to be "the basis of every other cause of the removal of whole parts." It is on this account that parts most distant from the centre of circulation are most subject to ulceration; and that recent and adventitious formations are more liable to be absorbed, than those which are original.

Irritation, which is the effective agent of Mr. Hunter, can only indirectly promote absorption by deranging the enfeebled powers of assimilation, and superadding a morbid to a weakened action; hence the more irritable the ulcer, the more rapidly does it extend. Its character also, whether simple or malignant, and the varieties of each, depend on the nature and degree of the irritation, together with the peculiarity of action it may excite in the exhalents. Opium proves beneficial, especially in simple ulcer, by allaying this morbid irritation; but not by promoting absorption as Darwin was led to infer, in consequence, I presume, of entertaining the very singular opinion, that "no ulcer can heal unless the absorption from it is as great as the deposition in it."—*(Zoonom.)* Irritability, moreover, could not be conducive to absorption; for it is known that irritation weakens the tone, and injures the healthy functions of an organ. This fact would rather induce us to expect that irritability in the absorbents would prevent the waste of a part, on the same principle that such a state of the blood-vessels increases the evil under which it suffers.

It is admitted by Hunter that absorption requires a passive state of the part: "a condition incompatible with its existence," but the whole tenor of his observations on ulceration, is to prove that the waste chiefly and almost exclusively depends on the accelerated action of the absorbents. In referring results to a "new activity" in these vessels, which are manifestly the consequence of defective nutrition, he was obliged by refined if not abstruse reasoning, to attribute a stimulating quality to such novel and problematical agents as *removal*, *necessity*, and *death*. But this conclusion is not more strange than the extensive and arbitrary application of the term *sorbentia* by Darwin; who ascribes to such immediate sedatives, or rapidly debilitating narcotics, as opium, digitalis and tobacco, the reverse power of exciting the absorbents.

The doctrines of both, respecting the nature of absorption, imply a more incredible peculiarity in the absorbents, than that of their uniformity:—viz. the disposition of being excited and invigorated in proportion as the power of every other part becomes enfeebled and exhausted. And the fact, that absorption progresses in such conditions of the body, as languor, exhaustion, palsy and death,—and during the operation of medicines producing these conditions of the system, requires, that we either allow those vessels that unnatural susceptibility, or admit the exclusive independence of their powers and uniformity of their action. Those who are inclined to reject the latter as visionary, should reflect before they decide, on the paradoxical and repugnant alternative which they will be compelled to adopt.

Dropsy appears to offer serious objections to the Uniform Action of the absorbents. The effusion seems to contradict the opinion that they are not subject to torpor; and it may be thought that the usual method of cure refutes the doctrine that they are incapable of being excited. But an unbiassed examination of the pathology and cure of this disease may show, that in this, as in other instances, the fault of the circulation is charged to the absorbents; and that the sensible effect of the action of medicines on other organs, are strangely attributed to changes which they could not produce in the absorbent system, even if its vessels were susceptible of their action. Our remarks will be confined to dropsy, when a disease of the system, and consequent to debility: the same general mode of reasoning will apply to it when partial; and there can be no controversy respecting the vessels concerned, whether it is occasioned by either plethora or obstruction.

The remote debilitating causes of the species of dropsy under consideration, the enfeebled and relaxed state, and, I will venture to add, the peculiar morbid action or dropsical *tendency* of the blood-vessels, enables us to account for the watery profusion with which the system is inundated, without calling in the really foreign aid of the absorbents. The disappearance of fat, and the progressive emaciation attendant on this disease, also evince that the lymphatics are neither torpid nor indolent. But the nature of the effusion affords the most convincing and conclusive proof: its quality differs from the ordinary healthy exhalation; hence it must be a *morbid* secretion, and shows that it not only depends on relaxation of the blood-vessels, but also on a disordered condition of their exhalents. If, in connexion with these facts, we reflect, that the extremities of the absorbents, in consequence of being continually immersed in the dropsical fluid, can preserve a constant state of repletion, and convey the full measure of their capacity, it appears probable, that even more than the usual quantity of fluid is imbibed during the dropsical accumulation. The removal of the effusion in the case of protracted death, which has already been quoted from Hunter, proves at least that, instead of any torpor, the action of the absorbents is regularly continued in dropsy.

To promote absorption is one of the chief indications of cure in this complaint. But it is difficult to conceive how the remedies that are generally administered, could have the intended effect, even if the process could be expedited by stimulants. They must either act directly on the absorbents by their presence, or their action must be extended to those vessels through the medium of sympathy. The improbability of either has already been anticipated. The most general and powerful stimulants have not evinced any perceptible effect; and we might, from that consideration alone, infer an equal insensibility to the action of such as are partial in their operation, even if they could arrive at the lymphatics with their composition unchanged. But since they cannot reach those vessels without being subjected to the peculiar secretory action of the exhalents, it is most probable that their qualities must be materially altered in consequence of being assimilated to the product of that action, and moreover subject to all the variety to which a secretion is liable. If they still retain their stimulating power, it must be equally exerted on the exhalents, and thus defeat the object for which they were administered. It is still more improbable that any associated action is extended to the lymphatics: it would require an extraordinary, and truly mysterious influence of sympathy, to excite a corresponding effort in a part which does not suffer from paralysis, or division of its nerves.

There is no necessity for attributing uncommon powers to the medicines generally administered in this kind of dropsy. If it be only granted, and the concession is certainly consonant with fact, that diuretics, cathartics, &c. act on the same parts, and in the same manner, when given in this disease as when administered in other complaints, we will then not be perplexed with inconsistencies in accounting for their beneficial effect.

The most probable operation of diuretics will illustrate this position. The disease consists in a *local determination* of a *general morbid tendency* to inordinate serous effusion or secretion. Diuretics, by stimulating the kidneys, produce a *counter* local afflux of the fluids to these organs; and as the increase of one secretion diminishes the quantity of others, hence we find a dry, harsh skin, and paucity of urine in dropsy. By exciting the kidneys, the general current is diverted from the cellular interstices and internal cavities, to the urinary organs: the exhalents, being thereby relieved, remain almost inactive; and their cessation allows the uniform lymphatics to diminish the existing effusion with sufficient rapidity to account for the diminution of bulk. It follows, as a general deduction, that the subsidence of the dropsical accumulation is an indirect consequence of increased urinary action.*

The effect of emetics, cathartics, and such medicines as operate on all the emunctories, like mercury, can be satisfactorily explained on the same principles.

The disappearance of large accumulations in a short space of time, will form no objection to the general doctrine. It is a fact, well attested by observation and experiment, that the absorbents are naturally very active. The known velocity of capillary attraction, (should that be the mode by which the fluid is imbibed,) is equal to the effect; and we might with propriety, adduce the rapid absorption of tears as a striking example. But independent of this consideration, the sudden removal of dropsical effusions will not surprise, when it is recollected how speedily large quantities of water are taken up from the stomach; and how expeditiously smaller collections of lymph or pus are removed from circumscribed cavities, and the cellular membrane, when the action of the exhalents is either suppressed or diverted. Hence the benefit of emetics in these and similar cases; for it is more than improbable that tart. antim. excites the absorbent system in particular, whilst it relaxes the body in general. The irritation it produces, causes a general determination of the humours to the stomach, whilst the nausea it creates, occasions a languor and inaction in the exhalents of the secreting surface; consequently, the absorbents continue unopposed in the removal of what is already deposited.

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* The diuretic effect of digitalis probably depends on the torpor it produces in the blood-vessels; thus suppressing the action of the exhalents, and arresting the progress of effusion: whilst the continued action of the absorbents accumulates the serous fluid in the blood-vessels, which excites the kidneys in proportion to its quantity. Thus, though the mode of operation is different from that of other diuretics, yet its effects are the same.

Pressure is supposed to expedite absorption by some directly accelerating effect; and this opinion is rendered plausible by the advantage which is derived in dropsy from bandages and tight lacing. But the real effect of these applications probably consists in restraining effusion, by resisting the distention of the cells, and impeding the action of the exhalents. Pressure may be so firmly applied as to suppress the action of the exhalents almost entirely, and yet leave the absorbents unobstructed and operative: this is exemplified in the rapid ulceration of the prominent parts of those who are long confined to an horizontal position. Again, a certain degree of pressure may, by supporting the debilitated blood-vessels, relieve the morbid action of the exhalents, and induce a more healthy and vigorous tone in those vessels; on this, the benefit of rollers and adhesive straps in ulcers appears to depend.

These opposite effects of pressure justify the conclusion that it operates by modifying the condition, and varying the action of the blood-vessels; and if this be conceded, the *Uniform* Action of the absorbents, which it necessarily implies, must also be admitted.

ART. VI. *Quarterly Report of Diseases treated at the New-York City Dispensary, to the 15th July,* 1828. By JOHN J. GRAVES, M. D.

THE past season has been one of an almost constant continuance of rain, but it has not been productive of much acute disease. Nothing indeed of much interest has occurred; the most general complaints being chronic affections of the bronchiæ, and rheumatisms of long standing, which were aggravated by the humid state of the atmosphere. Gastric derangement to some extent has in almost all instances accompanied these, and in many cases has given rise to a mild form of ulcerated sore throat. These complaints have been relieved by the free administration of purgatives and emetics, and such other ordinary remedies as seemed particularly to be required.

Ulcerated corneæ, ensuing very rapidly upon an acute form of ophthalmia, have been very prevalent. In most instances this result had taken place before the patient applied for relief. No cause can be assigned for the unusual number of cases which has been met with this season, but there appeared in almost every instance of inflammation of the eye, a peculiar liability to take on this painful form of disease. The general febrile excitement, and the disposition there seemed to be in the ulcer to produce a complete disorganization of the eye, required an active treatment, which consisted in general and local bleeding, and calomel purgatives; and as a local application, the nitrate of silver was chiefly depended upon.

Gastrodynia has not unfrequently been met with. Some few of the cases have been of the severest form, and seemed to bid defiance to every variety of treatment. The greatest relief we think we have found to be from the application of an antimonial plaister over the epigastrium, and such laxatives as kept the bowels in a soluble state. Nothing gives so much relief during the distressingly painful paroxysm, when the stomach feels as if it were being torn from the body, as a prescription which we have been in the habit of using.* But relief for a short time is almost all that can be expected, a radical cure can scarcely be hoped for, especially when the disease has been of long standing.

Numerous cases of *Intermittents* have been the subject of our care for two or three months past. With but very few exceptions the subjects have been foreigners, who, from labouring on canals in different sections of the country, were afflicted with the same fever during the last autumn. This liability to a return of autumnal agues on the following spring, is a familiar fact, and can only be accounted for by the imperfect cure in the first instance, leaving the system in a state predisposed to give rise to the complaint, when a season shall arrive in which it is common for these organs to suffer from derangement. The early season of the year, characterised as it is by a variable temperature and unsettled state of the weather, is most productive of such derangement, particularly when these viscera have been previously debilitated by disease. From the necessary exposure to cold during the winter, and the consequent contracted state of the capillaries of the surface, a preternatural determination of fluids to the internal organs takes place. This is well known to be the greatest towards those parts which suffer from debility and irritation.

From the comparatively equable state of the surface during this season, the determination to parts is more steadily kept up than it is in the spring, when from the continued atmospherical vicissitudes, constant changes are taking place in the circulation. It would seem that steady determinations to organs, when not carried to too great an extent, are not as prejudicial to a comparatively healthy state of their functions or structure, as frequent changes in the amount and force of the fluids which they contain. At one time, in such cases they are too highly stimulated, when perhaps at another, they become debilitated from the want of a stimulus, that in a healthy state would be thought too great, but which they become more or less accustomed to. By this irregularity of transfer, the organs are kept in a state of irritability, much greater than if the changes of temperature did not take place, as they do not but in a slight degree during the winter. A steady morbid determination too, may be more easily relieved than when it is variable. A pediluvium, and a bowl of warm tea, will thus dispel symptoms at this season, which may require more active treatment in either spring or autumn. Why after a first attack, the predisposition to an intermittent form of disease particularly, should remain dormant in the system for three, four, and six months, and then re-appear in its original character, after all, can no more be accounted for, than why fever should ever assume this character.

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* ℞ Ammoniæ Carb. ℈ij.
Tinct. Cinch. Comp. ℥j.
Sacch. Alb. ʒij.
Aq. Menth.
Aq. Puræ. aa. ℥ij. M.

In almost all these cases, there were marked symptoms of extreme hepatic derangement, showing itself in a variety of forms, as icterus, ascites, enlarged liver, constipation, and a general debility. The most of these had been cured when first attacked, by quinine and strongly stimulating drinks; these were administered by friends generally, without reference to the paroxysm or state of the system. After evacuating well the first passages, a full dose of Dover's powder just before the paroxysms, was found sufficient to put a stop to their appearance. A simple infusion of cinchona, gentian, and colombo, was afterwards administered; and for the most part, was found to answer perfectly well in stimulating the impaired secretory functions of the stomach, bowels, &c. to a healthy action, and by that means procuring a healthy digestion, restoring the balance of circulation, and giving strength to the system.

When icterus or ascites were the most prominent disorders, of course some variation in the treatment was required.

Several cases of *petechial typhus* were met with in the months of April and May. In their character they were the same as were occurring at the same time at the Bellevue establishment. Accompanying the usual symptoms, there was one that we have not seen mentioned by authors; it was an inflamed state of the fauces, which in a few days assumed an œdematous appearance, the root of the tongue at the same time becoming swelled and affected with an intense soreness. Stimulating liniments and yeast gargles gave much relief. Blisters to the epigastrium were sometimes found necessary to relieve a dull, oppressive pain, and tenderness in that region. Large doses of calomel frequently repeated, followed occasionally by castor oil, and mucilaginous drinks, were chiefly relied on until a returning healthy state of the skin, and lessened coating of the tongue began to show an altered state of the disordered digestive secretions, when ammonia in excess in the spirits of mindereri, weak infusions of colombo, seneca, and serpentaria in combination, and an occasional purgative, were all that seemed required for a successful termination of the disease.

In the cases that have been seen this season in different parts of the city, no instances, we believe, have been known that will give support to the doctrine of personal contagion in this fever. It is true that several members of the same families, where they occupied the same building, have been affected, but the causes which produced it in the first instance, were capable of producing it in all the others. In one house occupied by four or five families, two in one of them, and three in another, had the fever, but none of the many persons who visited it, nor any of the inhabitants of the neighbourhood, were affected with this or any disease that could be traced to contagion. Upon examination, no cause whatever could be discovered in or about this house for the appearance of the disease, unless an extensive syphilitic ulcer on the skin of a man who afterwards died in the Fever Hospital at Bellevue, as we understand, of this fever, could be called such. The house was remarkably clean for one occupied by this class of our population, and far worse and more neglected sloughing ulcerations in more filthy, ill-ventilated, and wretched habitations have been seen, but they never, to our knowledge, so infected the atmosphere with an effluvium, capable, by decomposition, of producing a malignant fever, which by virtue of its peculiar properties, could reproduce its like in any number of cases. The fact that we have mentioned may serve, however, as evidence to confirm the belief of those who are of opinion that decomposed human effluvium is the cause of typhus, and that this when it has once taken place, is capable of giving rise to a miasm completely elaborated, and which, from some peculiar combination of its principles, is personally contagious. If human effluvium be the cause, how does it happen that in situations and seasons unfavourable to any such origin, in families and places, when it is impossible in reason even to entertain for a moment a suspicion of this kind; how does it happen, we say, that under such circumstances, typhus even of a malignant character is not unfrequently met with? As to personal contagion, we are skeptical in any thing that has even the shadow of a leaning to such an opinion, and think the doctrine far more untenable, than that of the generally supposed original cause of this fever. We believe, as we have stated in a former paper, that typhus, the remittent and intermittent, are identical, arising originally from the same cause, but assuming their peculiar types in the first instance, with a liability to run indiscriminately in their progress into each or either of the other forms. Since the date of that report, we have had opportunities of conversing with intelligent physicians from different parts of the state, and from the results of the information obtained from them, have seen no reason to alter the opinion then expressed.

Now it seems to be granted even by those who deny this identity, that it is possible for any of the ordinary causes of fever to give rise to specific typhus, and very frequently indeed, to give a typhoid character to any fever from the first, but that this is dependent upon certain circumstances connected with a depressed state of the nervous system. This concession or modification, affords an argument that leads us to the reasonable conclusion, that this predisposing state is the peculiar one required to give in *every* instance that character to fevers, which makes the only difference in the three forms we have mentioned. The second, or pyrectic stage of an acute paroxysm of intermittent, at the time could scarcely be distinguished from a remittent or typhus in their essential symptoms. There are indeed slight differences, but these do not afford the necessary symptoms which indicate the prominent seats of disorder. And it is as Clutterbuck remarks, "only by observing the termination and recurrence of the paroxysm that the distinction can be made. An identity of symptoms—as he truly says—therefore shows an identity of disease." Now, no man will for a moment attach a contagious character to a remittent or an intermittent, not even, we believe, if they should assume a typhus complexion; and we are not able to perceive any distinction between a fever, whether it be originally a typhus, or whether it begin in either of the other varieties, and terminate in a well characterised form of that fever. The course of the latter, it is true, is different, but after it puts on a certain form, there is really no distinction. Finally, if typhus is in fact personally contagious, and this contagion arises from infectious secretions from the body, some proof should be adduced, capable at least of demonstrating this peculiar decomposition or elaboration of poisonous effluvium from the system; some evidence so conclusive, that a mind open to conviction could not well resist it. But this is not the case, nor will it be, while the circumstances in favour of contagion itself are so deficient in accurate detail, and so capable of being reasoned away, or at least of leaving strong doubts upon the subject.

There is a fact connected with this fever, which we may just mention here, as it is thought to serve in some degree to show the length of time after the cause first affects the system, before it discovers its effects in the peculiar symptoms of the disease. It would seem from some observations made on the Penitentiary fever that prevailed in that establishment, that this interval is two weeks. In 1825, when this fever was raging there, the convicts were removed *en masse* from the prison, and confined in the hospital. This was done as a preventive in the case of those prisoners who still apparently enjoyed good health ; but more or less of them continued to fall sick for the length of time we have mentioned, after which not a single case we believe occurred. The subjects of disease, it is well known, although they may be equally exposed to the causes, are not alike susceptible to the reception, or rather to the effect of those causes. The powers of the system of one may throw off the miasmatic virus of the atmosphere for a time, and at length become affected, while another will immediately suffer from its poisonous influence. As no new case occurred after two weeks from the period when the prisoners were removed from the pestilential atmosphere of their cells, and of course, from any possible chance of receiving into the system the noxious miasm to which they were then subjected, it was thought to be a fair presumption, that it required that length of time for the cause to operate upon the system before its effects would be shown.

In concluding this report we may here remark, that from the nature of papers of this kind, we are obliged to speak in general terms ; and also, that from the character and habits of the persons who come under our care, the diseases require in most instances, a plan of treatment that may not seem to those who are unacquainted with the circumstance, to be correct practice, or as being applicable to the cases of respectable private patients. The diseases of a large majority of Dispensary patients, are either directly or remotely produced, or in some way affected by the intemperate use of ardent spirits. The influence of such habits, and the consequent misery attendant upon such a course of life, need only to be mentioned, for to most they are well known. But although the plan of treatment may from these circumstances be somewhat peculiar, still the principles of medical practice, if correct, we conceive are always the same ; but observation and judgment are necessary to make a right application of them, and so to modify our treatment of diseases, that it may be suited to the cases before us, governed as they may be by idiosyncrasies, temperaments, habits, and local peculiarities. There is no such thing as invariable rules in practice. How can there be, when no two cases are exactly alike? Many symptoms are as peculiar as the constitutions of men are dissimilar, and even where there appears to be the greatest similarity, there are shades of difference which, as they are by close examination capable of being distinguished, may arise from causes that require a mode of treatment, that at first could not have been anticipated. If then we do not sufficiently particularize, it is because we can here only give sketches of what falls under our notice, leaving the outline to be filled up by the good sense and discrimination of others.

ART. VII. *Case of Tetanus successfully treated.* By GEO. REIDENAUR, M. D. of Lebanon, Penn.

C. K. ætat. 14, a servant of Mr. J. B. residing about two miles from this place, in August last, while overheated, imprudently went into the cellar and remained there several hours, with a view, as she said, of cooling herself.

A few days after she complained of a rigidity of the muscles of the superior and inferior extremities, a sense of uneasiness about the root of the tongue, and a stiffness about the back part of the neck, together with a difficulty of swallowing, and some febrile excitement. In short, every organ of voluntary motion appeared to have suffered more or less, and the muscles of the lower jaw became so rigidly contracted as unequivocally to characterise *trismus.*

An *empiric* was now desired to visit her, who pronounced it a very *anomalous* affection, and prescribed his usual *balsamic remedies.* He continued to attend her for ten or twelve days, when owing to the interposition of her friends, I was requested to see her. When I first saw her, the rigidity of the muscles of her body was such, that she could not bend herself in any direction, but was perfectly stiff, and her jaws were so firmly locked, that she was then, and had been for nearly a week, unable to take even liquid nourishment.

For several days before I was called, she had been repeatedly seized with convulsions of the *opisthotonos* kind, which had drawn her body backwards in such a manner that it was supported by the head and heels.

The spasms were unattended with violent pain, and generally continued for several minutes, and returned at intervals of about half an hour, during which her countenance was hideously distorted, her respiration hurried, and her pulse contracted and irregular.

From her emaciation and debility being great, I ordered Madeira wine to be plentifully given her, and prescribed dram doses every two hours of equal parts of tinctura opii and spts. terebinth. Upon my next visit I had the pleasure of finding a considerable abatement in the symptoms. She could open her mouth near half an inch, and complained of no pain, and could take some spoon victuals. She took near two quarts of wine in twenty-four hours, which was conveyed into her stomach through the aperture by the loss of two of her teeth.

By a rigid perseverance of the remedies for better than a month, the spasms entirely left her, and she was gradually restored, by the use of *tonics* and a nourishing diet, to her wonted health.

ART. VIII. *Cases illustrating the Effects of Ergot in Menorrhagia.*

By JOHN B. MISH, M. D. of Lebanon, Penn..

ALTHOUGH great diversity of opinion exists as to the powers of the *ergot* in parturition—some highly extolling it, others considering it perfectly useless, and there are even some who deprecate its employment, and go so far as to pronounce it the *pulvis ad mortem*—yet we believe it is now generally conceded, that when timely and judiciously administered, it is one of our most important therapeutical agents, not only in expediting labour, but also in restraining hemorrhagies from the uterus.

Having derived essential benefit from it in *menorrhagia*, I shall relate the following cases of the many in which I have witnessed it, to fulfil the indication for which it was prescribed.

Case 1.—In the month of March 1826, I was desired to visit Mrs. E. C. residing about five miles from this place, who, upon inquiry, I found had been subject to menorrhagia for some time, and that in her present attack a practitioner in her neighbourhood had unavailingly tried the usual remedies, together with the *tampon*. As the discharge continued to be profuse, and as debility was considerable, I conceived it a favourable case for the trial of the secale cornutum. I accordingly left eight powders, each containing five grains, with directions that one should be given every hour. Upon my next visit I was assured that she had not taken the first powder thirty minutes before the discharge had been partially arrested, and that after using the others it had entirely ceased. She has since had several slight attacks, but invariably found relief by taking grain doses of the secale in the form of pills, three or four in a day. Her health is now perfectly re-established, which had suffered much from menorrhagia for several years.

Case 2.—Miss M. L. was, on the 3d day of May last, attacked with menorrhagia, and as the discharge, although profuse, was permitted to be unchecked, owing to the superstitious opinion imbibed by her mother that serious consequences would result if remedies should be resorted to for the purpose of restraining it, until her debility became so alarmingly great that I was requested to visit her. When I saw her, I found her strength greatly prostrated, her respiration difficult, her extremities cold, and her pulse small and very weak. Having taken some powders of ergot with me, I left six of five grains each, which I ordered to be taken every hour. After the third was administered, the discharge was checked; and with a view of preventing a recurrence, I directed the remaining powders to be given that day. Since then she has been regular, both as to time and quantity, in her menstrual periods, and has enjoyed good health.

ART. IX. *Supplement to the account of some of the Lunatic Asylums of the United States.* By T. ROMEYN BECK, M.D.

AFTER the paper on this subject had passed through the press, we received from Dr. Todd, through the kind offices of Dr. Tully, of Albany, the reports (in manuscript) for the second and fourth years of the CONNECTICUT LUNATIC ASYLUM. The following abstract is taken from them, and we have also added such corrections to the statements on pages 195, 196, and 197, as are rendered necessary by the additional returns.

Admitted.	*Males.*	*Females.*	*Total.*
2nd year ending April 1, 1826.			36
4th year ending April 1, 1828.	18	22	40
Total admitted from April 1, 1824, to April 1, 1828.			157

Age.	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	Total.
2nd year not specified							
4th year	3	9	16	9	2	1	40

Species of Insanity.

2nd year not specified.

4th year.

Mania exultans,	9	Melancholia attonita	3
desponde ns	7	complacens	3
ferox	6	despondens	1
demens	2	errabunda	1
imbecilis	5	Idiotism	2
e potu	1		—
			40

Causes.

4th year.

Hereditary, - - - - - - - -	4
Constitutional, - - - - - - -	2
Predisposition excited by various causes, - -	4
Congenital, (Idiotism) - - - - - -	1
Bodily disease, - - - - - - -	1
Hepatic Disease, - - - - - - -	2
Following typhus, - - - - - -	1
Structural disease of the brain, - - -	2
Puerperal, - - - - - - - -	1
Religious anxiety, or exultation, - - -	4
Excessive mental application, - - - -	2
Domestic troubles, - - - - - -	3
Death of friends, - - - - - -	1
Failure in business, - - - - - - -	3
Intemperance, - - - - - - -	4
Jealousy, - - - - - - - -	1
Disappointed affection, - - - - - -	1
Excessive excitation on a return from a long voyage,	1
Unknown, - - - - - - - -	2
	40

Results of treatment. For the sake of presenting this clearly, we shall give the returns of each year.

		Recent Cases.	*Chronic Cases.*	*Total.*
Admitted	1st Year,	12	32	44
	2nd Year,	16	20	36
	3d Year,	23	14	37
	4th Year,	26	14	40
		77	80	157

	RECENT CASES.							CHRONIC CASES.						
	DISCHARGED.							DISCHARGED.						
	Recovered.	*Much Improved.*	*Improved.*	*Unimproved.*	*Died.*	*Total.*	*Remaining.*	*Recovered.*	*Much Improved.*	*Improved.*	*Unimproved.*	*Died.*	*Total.*	*Remaining.*
1st Year	5	2		1		8	4		7	3	1	1	12	20
2nd Year,	12	1	1		1	15	5	2	4	7	7		20	20
3d Year,	25	1				26	2	4	5	5	4		18	16
4th Year,	21			1	1	23	5	3	3		1	3	10	20
	63	4	1	2	2	72	5	9	19	15	13	4	60	20

Admitted during the four years ending April 1, 1828, 157

Of which,

Recovered	72	
Much improved,	23	
Improved,	16	
Unimproved,	15	
Died,	6——	132
Remaining April 1, 1828.		25
		157

		Recovered.	*Centesimal proportion.*
Whole number admitted,	157	72	45·86
Recent cases,	77	63	81·81
Chronic cases,	80	9	11·25

The comparative success of each year will be seen in its table, and in particular, the great success in recent cases during the third year. It is notwithstanding greater in the fourth, (being as 91 to 91½) from the following circumstance mentioned in the report. "Five of the recent cases have been admitted only within 14 days, and cannot be properly considered in any estimate of the proportion of recoveries." This leaves, of those remaining from the third year and admitted during the fourth 23, of which 21 were cured.

As to the chronic cases, Dr. Todd remarks, "the institution is thronged with incurable patients, who after all attempts for their restoration have been baffled, and all hope of recovery extinguished, are placed there by their friends, solely with a view to their comfort and safety. This forlorn and irremediable class of patients, has constituted during the past year, two thirds of the whole number of our chronic cases, leaving only ten out of thirty cases, which could with any propriety be ranked among the subjects of curative treatment. Three out of the ten have recovered, affording a ratio of recovery, equivalent *to thirty per centum.*" During the third year, making a similar allowance for incurable patients, the ratio was twenty-six per centum.

T. R. B.

REVIEW.

Art. I. *Pathological Anatomy. The last course of* Xavier Bichat, *from an autographic manuscript of P. A. Béclard; with an account of the life and writings of* Bichat. By F. G. Boisseau, member of the Royal Academies of Medicine of Paris and Madrid, of the Medical Society of Emulation &c. Translated from the French by Joseph Togno, Student of Medicine. Philadelphia, 1827. 8vo, pp. 232.

2. *Manuel of Pathology, containing the symptoms, diagnosis and morbid characters of diseases; together with an exposition of the different methods of examination, applicable to affections of the head, chest, and abdomen.* By L. Martinet, D. M. P. Resident Physician of the Hotel Dieu. Translated, with notes and additions. By Jones Quain, A. B. Demonstrator of Anatomy at the Medical School, Aldersgate-street. Philadelphia, 1827. pp. 301.

The life of Bichat forms a memorable era in the history of medicine. Though not without defects, his works must ever be ranked among the noblest productions of the human mind. As specimens of natural science, his *General Anatomy*, and *Researches on Life and Death*, are unquestionably unrivalled in richness of facts, felicity of detail, and originality of generalization. Bichat fortunately lived at a period the most auspicious for the successful exertion of his superior talents. Anatomy, at that time, presented a vast accumulation of materials, roughly cast together, and waiting the hand of a master to mould them into a symmetrical form. The genius of Bichat was happily adapted to this work; and it is due to his fame to confess, that he more than accomplished it. Indeed, in respect to extent of original and valuable research, how few, very few, have equalled him? Anterior to Harvey, Bonetus, and Sydenham, there is scarcely one whose name is worthy of being mentioned. Of those that flourished in the latter part of the seventeenth and in the course of the eighteenth century, who, but Morgagni, Baglivi, Hoffmann, Hunter, Haller, Bordeu, Pinel, and one or two others, can be said to have materially contributed to establish physiology and pathology upon a solid and enduring basis? Even these, great and invaluable as were their services, were but pioneers in the march of science, preparing the way for him, whose glory it was to illustrate the commencement of the present age, by unfolding, in a manner entirely original, the intimate structure, properties, and functions of the primary tissues of the human body, and classifying them according to their analogies. In thus creating *General Anatomy*, Bichat gave to medicine a character approaching somewhat to that of an exact science. The influence of his writings is, at present, every where seen; and we do not perhaps deviate from the truth in saying, that the principal improvements made in pathology within the last twenty-five years, have resulted from inquiries pursued according to his method of investigating the phenomena of the body in health and disease.

Although the works of Bichat, published during his life, contain numerous references to the changes produced by disease in the different organs and textures of the body, it is only in the volume before us that we are presented with a connected view of his researches into pathological anatomy. The reader will peruse in this work, to use the language of Boisseau, many ideas which have become a kind of public property, and the originality of which is given to others, not to Bichat.

We are told, in an advertisement, by the Editor, Bailliere, that at the sale of the library of Béclard, he became the possessor of a manuscript written in his own hand, of the last course of Bichat's lectures, and that he consulted with several enlightened physicians with respect to its publication. They all concurred in the opinion that the smallest part of the doctrines of a man who had rendered such eminent services to science and humanity, should be collected with religious care; that the public would eagerly seek the completion of a course of lectures, during the delivery of which Bichat spent the last hours of his valuable life; and lastly, that it would be a supplement full of interest to all the editions of his writings. These considerations determined Bailliere to present the work to the public, and for which he is entitled to the salutations of the profession.

It is not our intention to enter into a critical examination, or extentive analysis of this interesting volume. In fact, the matter contained in it does not admit of being reduced to an abstract sufficiently brief for publication in this journal. The most we can do is, to present our readers with a general idea of its contents, and to give a few specimens of the manner in which the subjects are treated.

The work opens with a discourse strictly introductory, in which, after stating the objects of medicine, and the mode in which diseases admit of being divided into natural classes, a rapid view is taken of the leading pathological doctrines which have prevailed from Hippocrates to the close of the eighteenth century. The author justly remarks, that we may distinguish two classes of physicians; those who have only observed, and those who to observation have added post mortem examinations. The former are very numerous, the latter are confined to a very small number, and are only to be met with in the last, and we may add, in the present century. The practical bearing of this truth on the interests of humanity, is too obvious to be mentioned. The distinction alluded to, however, will continue so long as the indolence of physicians and the prejudices of the world are opposed to the dissection of the dead. But these obstacles to the advancement of our art it is hoped will one day be for ever removed.

The body of the work is divided into chapters, and these again into articles treating of particular subjects. In the first chapter the author confines himself to some general observations on autopsic examinations. He especially adverts to the lesions of organs produced by different diseases, and also to the several modes in which life is extinguished.

Among the appearances observed on dissection, he mentions one which is worthy of particular notice. He says, "*if a patient dies in a syncope, no traces of blood are to be found in the brain.*" If such be the fact, and who can doubt it, when coming from such authority, what are we to think of the hypothesis of some physiologists, that the quantity of blood in the brain, in its ordinary state in life and death, is never increased or diminished, but always the same; owing, 1st, to the bony case of the head being unalterable in its dimensions, and 2d, to the incompressibility of the brain and blood? That nature has carefully provided against the occurrence of a vacuum in the cranial cavity, under every circumstance that can possibly happen, no one will question. If the brain always occupy the same space, or, in other words, be absolutely or inappreciably incompressible, as it is said has been proved by experiment, it is obvious that the quantity of blood in the brain can never vary, it must be the same, whether the patient die of syncope or apoplexy. Now the appearance of the brain after death from syncope, as stated by Bichat, is directly the reverse of that which every anatomist has seen after death from apoplexy; and hence it may be asked, how it happens that in the former case, the brain appears exsangueous, whilst in the latter, to say nothing of the deposits of blood from extravasation, its membranes and substance appear excessively engorged?

The second and third chapters are devoted to the consideration of the order to be followed in pathological anatomy, and to the alterations of the fluids. In treating of the fluids, the author, in order to facilitate his enquiries, divides them into two classes, 1st, those which exist in a normal state, and 2d, those which are found in a pathological state. The fluids which exist in the natural state he divides into three kinds, the *circulating*, the *secreted*, and the *exhaled*. His views of pathology of the circulating fluids are stated in the fol- g terms :

"Nothing as yet, very general, can be said on the changes of the nature of the blood in diseases; on this subject we are confined to a few facts. All diseases marked by strength, such as inflammation, present in the blood which is drawn during life, a buffy fibrous coat, called pleuritic. We know that physicians who have admitted the thickening of the blood, have made use of this coat to explain the diverse phenomena; but the part they have caused it to act is entirely illusory. It is only formed when the blood is out of its vessels. However, it seems often that the blood participates in the malady without our knowing precisely its mode of influence. In all protracted diseases, the blood loses, in part, its coagulating property and assumes opposite characters. In putrid fevers does it putrefy in reality? Authors have exaggerated respecting this; but the prostration of strength, the facility with which the cadaver putrefies in these diseases, every thing seems to prove that the putrefying principle has passed even into the blood. It is also evident that in local affections, the humours have a tendency to putrefy before the death of the solids. In the inflammation which terminates in gangrene, ordinarily the fetid smell is exhaled before the solids are in a state of mortification.

"As to the other alterations of the blood, there are many which it would be difficult to classify under any general heads. In jaundice the blood takes on a yellowish colour. In general, in all diseases it is the blood which colours the lips and cheeks, in a peculiar manner for each of them, and which enables us often to recognise them.

"From all this we must conclude that the fluids almost always participate in the diseases of the solids. The general *consensus*, which seems to be wanting in certain cases, would suffice to make us think so. As to the other circulating fluids, they also most probably are altered, but we know less about them."—pp. 24, 25.

The subject of the fourth chapter is inflammation. Under this head Bichat first adverts to the different organizations of different parts of the body, and afterwards gives a general description of phlogosis, the characters of which he says vary according to two principal circumstances; 1st, according to the diseases with which it is complicated, and 2d, according to the system or tissue in which it is located. Though these circumstances were noticed, in a general way, by Hunter and Pinel, it is chiefly to the researches of Bichat, we are indebted for the facilities which have enabled us to extend and systematise our knowledge of the modifications of inflammations.

The remaining chapters of the work relate to the pathological anatomy of the elementary textures, of which the body is composed. These textures, excepting those which compose the substance of the lungs, are generalized, for the most part, in the same manner as we find them in the author's General Anatomy, being comprised in the following systems, viz. the serous, mucous, cellular, glandular, cutaneous, muscular, arterial, venous, nervous, absorbent, fibrous, synovial, cartilaginous, medullary, osseous, pilous, and epidermoid.

In treating of these systems, the author points out the idiopathic and sympathetic disorders to which they are subject, enumerates the diverse morbid phenomena which occur in different parts of the same system, and exhibits the anatomical changes produced in each by disease.

A few extracts from the body of the work will exemplify the manner in which the several subjects are treated. The author begins with the serous system which, as is well known, is composed of a certain number of membranes that cover the exterior of several organs. Speaking of the inflammation of these membranes, he observes:

> "Few systems, if we except the mucous and the cellular, are oftener inflamed than the serous; but all the membranes which compose this system are not equally susceptible of it; the following is their order in this respect: 1st, the pleura, 2d, the peritoneum, 3d, the pericardium, 4th, the tunica vaginalis, and lastly, the least frequent of all, the arachnoid.
>
> "Here, the causes of inflammation are extremely varied: in general, we shall never pay any attention to remote causes; among the proximate ones is particularly the suppression of transpiration; this is especially the case with regard to the pleura and the peritoneum. These causes act, not on the affected membrane, but on the neighbouring organs. When the disease is developed, these are the characters which distinguish it: at first it is accompanied with all the general phenomena; fever, chills, sweating; in general, it is singularly variable. A very sudden attack is manifested by an excessive pain of the part, as we see in pleurisy. In no system is the pain more keen; the stages succeed each other with an astonishing rapidity; in three or four days the disease is determined: moreover, the concomitant fever, which is slight in the affections of other parts, is here very intense, and the danger is always more manifest. This inflammation influences also the condition of the organs which it covers; besides, these toms vary singularly."—p. 37.

Bichat thinks it is difficult to determine the condition of the inflamed serous membranes during life. Nevertheless, he says, in the operation of hernia, and in certain experiments on dogs, the peritoneum has been observed in a state of inflammation; it was then extremely red. On the subject of adhesions of the serous surfaces, he makes the following observations.

> "Inflammation in this system, as in every other part of the body, goes through the same series of stages, if we except adhesion, which exclusively belongs to it. This phenomena has without doubt its origin in the serous membranes, from the suppression for a considerable time, of the fluid which was exhaled before, caused by the inflammation which permits the two surfaces of the membranes to contract adhesions. This termination accompanies always those by resolution. These adhesions are of two kinds: some have for means of union a species of albuminous matter, in the form of a false membrane; the adhesions, properly so called, are those in which the two membranes seem to blend themselves at their surfaces.
>
> "All serous membranes are not equally susceptible of this adhesion. The pleura presents this phenomena in two thirds of the cadavers examined in the dissecting rooms. Next in order comes the peritoneum, which sometimes adheres to the diaphragm and to the liver, seldom to the intestines; then follows successively the pericardium, the tunica vaginalis, and the arachnoid.
>
> "We see by this gradation, that those which are most susceptible of inflamation present, most commonly, adhesions. These are of four kinds; in the first, the two parts are so very intimately united that we cannot distinguish them. The pericardium having been found in this state, has caused doubts to arise about its existence. In the second species, the membranes are united in a more loose manner; in the third, there are a multitude of small fibrous prolongations, which extend from one surface to the other. In the fourth, there are also bands, but larger, flat, and disposed in such a manner, that one would think them natural. Can we ascertain during life these kinds of adhesions? Writers have described as a sign the constancy of the pain; but this only indicates the remainder of inflammation, which lasts more or less time. Besides, this affection is oftentimes without danger."—pp. 38.

Among the terminations of *acute* inflammation of the serous membranes, the author particularly notices chronic inflammation. The relation of this form of disease to dropsies is thus commented upon.

> "Moreover, the effects of these slow inflammations in the serous membranes, are, an obscure pain and analogous symptoms which often deceive

us in regard to their true nature, because formerly physicians attended only to the dropsy they produced. There is always more or less derangement in the organs which they cover. A remarkable effect of these inflammations, is a real dropsy augmented by exhalation. When these dropsies have reached their last period, it is often difficult to perceive whence they proceed, and to decide whether they are produced by the affection of a neighbouring organ, or by that of the membrane itself. We must have recourse to the preceding circumstances; for, symptomatic dropsy begins very differently from the idiopathic. Besides, as we have already observed, almost always in that dropsy which depends on the organs, the cellular tissue is infiltrated, whilst in the other, the serosity is confined to the cavity of the membrane. It is the same thing with respect to the encysted dropsies."—p. 40.

The pathological anatomy of the *mucous* system, occupies a considerable part of the present work. This system, extending throughout the hollow organs which have external openings, forms a very important part of the economy, and is exceedingly liable to disease. The affection to which it is most subject is inflammation. On this subject Bichat observes:

"The distinctive characters of the mucous inflammations, first depend on the manner they begin, and their close relation to the different states of the skin. They are almost always produced by sudden changes of the atmosphere; hence, colds or catarrhs, coryzæ, &c. This close sympathy is equally evident in other mucous affections. Indeed, we know that a cold application on the temples stops a nasal hemorrhage.

"Another character of the mucous phlegmasiæ, is their prevailing frequently as epidemic diseases. A multitude of authors have spoken of it. This is particularly the case in dysentery. This character causes these inflammations to differ essentially from the serous phlegmasiæ, and from those of all the other systems. Indeed no mention has ever been made of epidemic of phlegmon, erysipelas, &c.

"The pain in these inflammations is generally less intense than that in all others. In coryzæ there is only obstruction. Another character is that they are almost always unaccompanied with that swelling of the neighbouring cellular tissue, which we observe in other phlegmasiæ. In dysentery the abdomen is never distended as in enteritis. As to redness, it cannot be determined, since, in a normal state, it varies according to the condition in which the mucous membranes are found. However, it seems that this redness is always augmented. One can judge of it by analogy from the inflammations of the mouth. Seldom is there any concomitant fever; and, should it exist, it is never very intense. Moreover, mucous phlegmasiæ can be complicated with all the maladies of which we have spoken in the articles of complications of the diseases of the serous membranes."—p. 62.

Few subjects have been more happily elucidated by Bichat than hemorrhages. He regards them as generally produced by exhalation.

"All physicians, till now, had considered them in too abstracted a manner, without observing that, what is true with regard to hemorrhage of one part, is not so with respect to that of another. All the ideas of the mechanicians, who have explained hemorrhages by obstruction, have been overturned by Stahl, who has considered matter in a manner too abstracted and metaphysical.

"We shall classify the hemorrhages of the mucous membranes according to the parts in which they occur: however, they are divided into two distinct classes; namely, those from rupture, and those from exhalation.

"Hemorrhages by exhalation may happen wherever exhalants terminate; and indeed they have their seat in mucous surfaces. The nasal passages, bronchiæ, stomach, intestines, bladder, &c. may be the seat of them. They sometimes happen also in the serous membranes; for we sometimes find a bloody serosity in the peritoneal cavity in certain cadavers. We meet with them also in the cellular tissue; such are those which produce scorbutic spots. Those of the skin are of a rare occurrence, but not without example. Finally, glands have often been observed to exhale blood.

"Hemorrhages by exhalation, in the mucous membranes, as elsewhere, are of two species, passive and active. They are active when they are accompanied with developement of the vital forces; thus they have this character in the nasal passages, when we remark a tickling sensation, together with a slight pain and redness. At other times they are utterly passive, as when they are met with at the close of some organic affection characterized by debility.

"As to the state of the parts, after death, in which hemorrhage takes place, it does not differ from the natural condition, as it is seen in the matrix, in females dead soon after menstruation."—64.

The particular affections of the mucous system are treated of under the several heads of aphthæ, fungi, diseases of the conjunctiva, pituitary membrane, mucous membrane of the mouth, pharynx, larynx, bronchiæ, œsophagus, stomach, intestines, glans penis, urethra, vagina, womb and bladder.

Though more ample details on these subjects may be found in the works of the pathologists of the present day, yet no one can read the volume under review, without perceiving that much of that which is claimed by them as original, was publicly taught by Bichat.

The *cellular* tissue, which fills up the interstices between the other textures of the body, is considered by the author under the relation of the diseases to which it is subject. He says:

> "These diseases may be classified under three heads: some, idiopathic, arise there spontaneously, and run through all their periods, as phlegmon; some others depend only upon the continuity of this tissue with some primitively diseased structure, as cancer; finally others, are purely symptomatic, as leucophlegmasia, which is produced by an organic derangement. This distinction is real, and may be recognised even at the bedside of the patient."—p. 100.

With regard to the adipose deposits in the cellular membrane, the following are the views of the author.

> "Fat may be abundant or may be wanting. In the first case, there is an appearance of plumpness. When this *embonpoint* is not very considerable, far from constituting a disease, it is on the contrary a sign of health. Sometimes the fat accumulates in so great a quantity that, indeed, it produces a true pathological condition; but still there exists this difference between this latter state and anasarca, that excessive fatness does not kill the patient; but denotes only feebleness, little activity when in motion, and sometimes exhaustion, as we observe in eunuchs. This embonpoint is developed when favoured by certain circumstances; it is often observed to occur from the age of forty to fifty, and also, generally in those persons who lead a sedentary life, and who are fond of good living. The abdomen is particularly the seat of this accumulation of fat, which occurs sometimes in its cavity, and sometimes on its parietes. This condition has never been observed to coincide with an organic affection. The other parts of the body, besides the abdomen, may also become loaded with fat, such as the neck, thorax, and extremities.
>
> "Sometimes fat disappears from the economy. A moderate leanness never constitutes a morbid condition. Nevertheless, if it coincide with a state of feebleness, then it is ordinarily the symptom of an organic disorder, especially in the lungs. This leanness may also supervene upon sad passions; but does it then depend on an immediate affection of the cellular ue? It is more probable that it succeeds some organic alteration.

Violent exercise, change of air, want of nourishment, are so many causes which produce leanness. Sometimes leucophlegmasia is added to the emaciation."—p. 109.

In the chapter on pulmonary diseases, the author makes the following interesting remarks on asphyxia.

"*Asphyxiæ* may be referred to the chapter on the diseases of the lungs. We divide them into two general classes: 1st, those caused by simple deprivation of air which takes place in a vacuum, by strangulation, by submersion, &c. And 2d, those which are produced by deleterious gases, as azote, hydrogen, exhalations from privies, as well the vapour of charcoal.

"Drowning presents the following phenomena: the lungs are more or less gorged with blood; the bronchiæ contain ordinarily a little water, we meet at the same time with a great deal of mucus; we also sometimes find foreign bodies, such as gravel. The heart is very much dilated on the right side; the veins are gorged with a quantity of blood, which we find also abundant in the arteries; the heat disappears suddenly, which distinguishes this kind of asphyxia from all others. In general, the difference in the cooling of divers cadavers is always to be ascribed to the kind of death, and consequently we should be on our guard never to decide too hastily on the period at which the patient has expired. As to the state of the capillary system in drowning; on the external surface it is very much loaded with blood, particularly on the superior parts which are quite black, whilst the inferior extremities are very little coloured. This condition, especially of the face, agrees very well with the facility with which these same little vessels retain the red blood whilst alive. The brain presents also vessels very much engorged; as to its substance, it is in its ordinary condition.

"Strangulation presents nearly the same disposition. Nevertheless the lungs are less engorged because the air has been suddenly stopped, but the veins and the arteries are full; there is often erection of the penis, without our knowing why.

"In asphyxia produced by charcoal, the lungs are more or less engorged. If the death has been slow, they are very much so; and if it is sudden, very little. The heart and blood-vessels are very full. At the same time that it is abundant, the blood is always liquid. Heat is preserved for a long time in this kind of asphyxia; but the fluidity of the blood is kept up long after the heat has escaped. The limbs may be bent with the greatest facility, which is not the case with the other kinds of deaths, in which state much strength is required to bend them. The superior parts are somewhat livid; there is a peculiar vivacity of the eyes.

"As to the other kinds of asphyxia produced by deleterious gases, death in them is so sudden, that the lungs are very little engorged with blood: only few autopsic examinations have been as yet made relative to this kind of death."—*Bichat*, pp. 129, 30.

The work of Martinet, which we have associated with that of Bichat for the purpose of review, is an exceedingly valuable manual of pathology. It is divided into two parts. The first, which is intended by the author as a clinical guide, contains a brief statement of the necessary requisites for the proper conduct of clinical pursuits; and a detailed account of the improvements, which, of late years have been introduced in the methods of investigating the diseases of the three great cavities of the human body. In the second part, care has been taken, says the author, to give in a condensed, yet complete form, every thing that is necessary to enable the observer to distinguish diseases from one another, and if necessary, to draw up with precision the history of them; to this is subjoined an enumeration of the symptoms of the different affections, and the morbid alterations which they induce. The office, which the author has for some years filled at the Hotel Dieu, has, he remarks, afforded him abundant opportunities of verifying, by actual observation, the truth of his statements. The work is, in a word, a systematic complication, made up of the author's own observations and the valuable researches of Laennec, Andral, Lallemand, Serres, Louis, Broussais, Rostan, Bertin, Chomel, Double, Landre-Beauvais, Recamier and others.

Though our limits do not allow us to give a full analysis of this work, we cannot forego the opportunity of transferring to our pages a few paragraphs illustrative of its character and value.

The first part commences with an exposition of the various methods of examination used in medicine. The general method applicable to all diseases is laid down by the author with great precision. He observes:

"It will here be asked, what course should be pursued in the conduct of our researches? Can we adhere to any fixed and uniform plan? Certainly not. For how could the same method of investigation be made to apply to diseases whose seat and nature are totally different? Would it not be absurd, when examining a case of effusion into the brain, to proceed in the same way as if the effusion were seated in the thorax? And what resemblance can there be between the questions addressed to a person with malignant pustule, and one labouring under scirrhus of the stomach? Surely the means of ascertaining the difference between small-pox and varicella—between hydrophobia and certain nervous affections which stimulate it, must be very different from those adopted, when we want to distinguish mania from arachnitis, inflammation of the stomach from peritonitis, or gout from articular rheumatism. For it would evidently be irrational to pursue the same routine of examination in diseases, so totally different in their seat, nature, and character.

"Our methods of examination then should partake of all that precision which marks the improved pathology of the present day; and though they may not be directed in every case to each viscus and tissue, they should invariably be directed to explore each of the great cavities, where the vicinity of the contained viscera, and their numerous sympathetic relations constitute so many fertile sources of error."—*Martinet*, p. 16.

The following preparatory examination, which we are told is that usually pursued at the Hotel Dieu, enables the physician to curtail much labour, and so to direct his questions, as to ascertain with precision the seat and nature of the disease under consideration.

"*Preparatory Examination.*—Whilst examining the general appearance of the patient, and the expression of his countenance, the observer should at the same time ascertain the state of his tongue and pulse, should see the expectoration, if there be any, make him respire, and ask whether he feels pain in any particular part, and if he does, what has been its duration.

"In this way, which is particularly useful in acute cases, a skilful person passes rapidly in review the principal functions of the system, and obtains some idea of the state of the organs contained in the three great cavities, which are generally the seat of all serious diseases. The countenance and general appearance are good indices of the state of the intellectual and muscular systems, the tongue and mouth mark that of the digestive organs, and the pulse indicates either the direct derangement of the organs of circulation, or their connection with the disturbance of others.—The expectoration, respiration, and voice mark the state of the lungs and their appendages, whilst the seat of the pain, of which the patient complains, and the time it has lasted, cast additional light on the information obtained by the previous inquiries.

"The observer is still far from having ascertained the precise character of the lesion he is examining, but by means of the distinguishing signs of the diseases of the principal cavities, he will, in the first place, be able to determine whether the affection be acute or chronic; and in the next, by following the plan of examination we are now about to detail, he will learn how to give to his questions that degree of precision which is necessary for strict diagnosis and accurate description. By these means may be avoided that oversight so commonly committed in elementary works, namely, of supposing that to be known which is unknown, and of sending the reader to the perusal of a case, of which he as yet knows not even the denomination.

"When commencing to take down a case, first note the name, sex, age, and occupation of the patient; this should be done according to the form above given. In some cases it becomes necessary to state the country or district from which the patient comes, and the diseases which prevail there. For example, many cases of intermittent fevers found in Paris, got the infection elsewhere, which ought to be noted.

"In general, it is advisable to collect the principal facts and circumstances of the case in the presence of those in attendance on the patient; it tends much to inspire confidence. In hospitals, pupils should avoid fatiguing those unhappy persons whom misfortune compels to take shelter in such asylums; and when they are seized by any dangerous disorder, surely their own feelings should teach them, that it is worse than inconsiderate to repeat the same questions many times over, and often without any determinate object.

"The time of making the explanation is not altogether a matter of indifference. When it is intended to put a number of questions, and enter into all the details necessary for a complete narrative, it is advisable to do so during the period of the remission, as then the patient can better bear the fatigue and exertion of conversation. But when on the contrary, we wish to observe the symptoms presented by the disease, and the changes induced in the functions, in a word, the actual state of the patient; then it is better to choose the moment of exacerbation, as all the symptoms are more strongly marked, and their relative importance can be more easily assigned.

"The acute and chronic forms of disease require a plan of examination and narration altogether different. Every thing connected with the previous history should be known, and stated fully in chronic cases; it is the only means of throwing any light on the obscurity which so generally surrounds them. But in acute cases this is far less necessary: it is of very little use, when considering a case of arachnitis, or pericarditis, or when giving its history, to go back to any previous affections of the patient, or inquire what has been his usual manner of living, or what influence any particular agent may have exerted upon him. When the symptoms are urgent, our object is to ascertain speedily the nature and extent of the disease, and meet it by an energetic plan of treatment. Though this principle is true as to the treatment, it is not strictly so with regard to the prognosis, which must be modified by the existence of any particular organic disease, or hereditary predisposition, known to exist in the individual himself, or in his family.

"After having examined the different parts of the body, in order to ascertain its external conformation, and any malformations it may present, the existence of which might lead us to suspect others deeply seated; after having ascertained whether there be any venereal or scrofulous cicatrices, which may throw some light on the present affection, the history should then be entered on in full detail, which will be found useful, particularly in consultations."—pp. 17–20.

After stating the various inquiries necessary to be made in studying the history of diseases in general, the author enters upon the method of examination applicable to diseases of the head. In treating this subject he considers in detail the state of the intellectual faculties, sensitive system, locomotive system, digestive system, respiratory system, and circulating system.

He next proceeds to the method of examination applicable to diseases of the thorax. Under this head, he says, that after examining the external conformation of the chest, and inquiring whether pain is felt in any particular part, we should investigate the phenomena which result; 1st, from the act of respiration; 2d, those that depend upon the voice; 3d, the product of expectoration; 4th, the symptoms given by percussion; and 5th, those which are referrible to the heart and its connections. Martinet has rendered this part of his work especially interesting, by giving a plain and definite account of auscultation, mediate and immediate. After fully considering the method of studying the diagnosis of thoracic diseases, he thus recapitulates the principal points to which the physician should direct his attention.

"He should begin with examining the expectoration, as being of considerable value in distinguishing diseases of the chest. If limpid and viscid, it indicates acute catarrh; if, after presenting this appearance, it becomes opaque, yellow, greenish or puriform, it marks chronic catarrh; if it adheres firmly to the vessel in which it is received, and is more or less tinged with blood, it anounces pneumonia; if round and opaque, masses float in a quantity of frothy fluid; or if they are puriform, and streaked with white lines, and containing small white masses insoluble in water, we conclude that they are produced in a tubercular excavation. If the expectoration is fluid, purulent, and suddenly coughed up in great quantity, it should make us presume, that a fluid contained in the pleura, has made its way through the bronchi, and so is evacuated. When pieces of false membrane are expectorated, they are recognised at once as the product of croup; and a dark green fluid, exhaling a fetid smell, marks gangrene of the lungs. In hæmoptysis, bright red and frothy blood is expectorated; this should not be confounded with that which occurs in hæmatemesis, or with the bleeding which occasionally comes from the gums or the nares.

"The effects of percussion should next be attended to, as they tend to direct the observer in the examination he is about to make with the assistance of the stethoscope. It should not be forgotten that, even in health, there are some parts of the chest which give a dull sound, as for instance the region of the heart, and the lower part of the right side; there are others in which the sound is heightened, as the lower part of the left side. Percussion indicates the parts in which the sound has become more dull and those in which it is more clear than natural; diminution and absence of the natural sound, characterize pneumonia,—accidental tissues developed in the lung or cavity of the pleura, hypertrophy of the heart, and effusions into the pleura or pericardium; increased loudness of sound occurs in emphysema of the lung, or effusion of gaseous fluids into the pleura; finally, the gurgling and metallic tingling indicate pulmonary excavations, or circumscribed cavities in the pleura, communicating with the bronchi.

"Inquiry should next be directed to ascertain the state of the respiration, (whether it be painful and provokes cough, the character of the cough and also of the voice, which may be hoarse, croupal, &c. after which, by the stethoscope the observer may ascertain the parts of the lungs which are or are not permeable to the air. The "rale crepitan" will indicate to him the first degree of pneumonia, œdema of the lung, and pulmonary apoplexy; acute catarrh will be distinguished by the "rale sonore" or "sibilant,"—chronic catarrh, and the gurgling of softened tubercle by the "rale muqueux," and interlobular emphysema, by the peculiar sound described above, as the *murmur frictionis*.

"The phenomena of the voice should be explored in the different parts of the chest. If pectoriloquy is heard under the clavicle, or in the hollow of the axilla, particularly at one side, it indicates phthisis; œgophony is the proper sign of effusion into the cavity of the pleura; finally, the metallic tingling anounces a cavity communicating with the bronchi, and the metallic respiration, a simple bronchial fistula.

"When any symptoms of effusion exist, it will be necessary to measure each side of the chest, and try by succession to discover the presence of the fluid supposed to be present.

"When the heart is supposed to be affected, the observer, after having ascertained that there is no unnatural enlargement in the præcordial region, and after making percussion, should proceed to examine the pulsations of the organ, between the fifth and seventh ribs, and at the base of the sternum. He should consider these in reference to their extent, impulsion, sound and rythm. If they are feeble, and heard in different parts of the thorax, he may suspect a dilation of the ventricles; if, on the contrary, they are strong and circumscribed, they indicate hypertrophy; if they emit a clear sound, it is a symptom of thinness of the walls of the heart. The disease is proved to exist at the right or left side of the organ, according as these effects are more audible at the base of the sternum, or between the cartilages of the ribs, and the time at which they are heard marks whether it is the auricles or ventricles that are affected. When the "bruit de rape," or sound like a file, is heard at the left side, and is synchronous with the contraction of the ventricle and the pulse, it indicates a narrowing of the sigmoid-aortic and mitral valves: when, on the contrary, it is synchronous with the contraction of the auricles, the narrowing is at the auriculo-ventricular opening; when it is heard at the base of the sternum, it is a sign of contraction of the tricuspid or sigmoid valves of the pulmonary artery.

"The observer should examine the anterior part of the sternum, to ascertain whether there be an aneurism of the arch of the aorta, and the posterior part of the thorax, to determine that of the descending portion of this vessel. In all these cases, he should attend particularly to the state of the pulse, whether it be frequent, small, irregular, contracted, or developed; lastly, he should conclude this examination by noting the expression of the countenance, the appearance of the body, and the symptoms referrible to affections of other organs."—pp. 66–69.

The exposition of the method of examination applicable to diseases of the abdomen, and also of that applicable to the different tissues, as the cellular, cutaneous, mucous, muscular, fibrous, &c., is exceedingly judicious, and should be diligently read by every student who wishes to apply his pathological knowledge to practice. The author closes the first part of his work with an account of the method of making post mortem examinations, and some general observations on diagnosis.

The *second part*, as we have before stated, relates exclusively to the pathology and diagnosis of diseases. These are arranged in the following order: Diseases of the brain and its membranes; diseases of the medulla spinalis; diseases of the chest; diseases of the heart and its connections; diseases of the digestive organs; diseases of the urinary organs; diseases of the organs of generation; diseases of the skin; diseases of the cellular tissue; inflammations of the mucous membranes; affections of the muscular, synovial, and fibrous systems; diseases of the vascular system; general diseases; eruptive fevers; fevers; poisons.

In treating of particular maladies, the author displays an intimate acquaintance with symptomatology and pathological anatomy. He says nothing of the therapeutic management of diseases; a circumstance the more to be regretted, as it materially incommodes the young practitioner, who is always desirous to connect the study of the nature and seats of diseases with the indications and means of cure. To the American student, however, the fault alluded to is perhaps of no great consequence; inasmuch as the modes of practice, pursued in the Parisian hospitals, are by no means suited to the cure of the acute diseases of the United States.

There is one character, belonging to the second part of the present *Manuel*, which greatly increases its value, namely, its exclusive adherence to matters of fact, being no where encumbered with theoretical allusions or speculations. What the doctrinal opinions of the author are, we are left to infer from his statements of the symptoms of diseases and the morbid appearances disclosed by dissection. Judging from these, we should say he is decidedly opposed to the Broussaisian theory of fever. However this may be, we think the facts he records are in no way reconcilable with the dogmas of the *Val de Grace* professor. The anatomical characters of several forms of fever, so far from showing the proximate cause of the disease to be a *gastro-enteritis*, go directly to disprove it. Our readers will perceive the correctness of this remark by attending to the account given by the author, of the appearances observed on dissection in the following varieties of fever. "*Adynamic fever.*"—"In the present state of the science we cannot exactly describe the anatomical characters: the bodies run into putrefaction in a very short time; the parenchymatous viscera are found softened: the lungs and the lining mucous membrane of its numerous canals are gorged with a thin, black blood." "*Typhus.*"—"The anatomical characters vary *very* much; the viscera of the head, thorax or abdomen, sometimes are seen with all the marks of most acute inflammation; in other cases it seems to have been very slight, or no traces of any disorganization may be observed, especially where death has occurred very rapidly:

the bodies generally putrefy quickly." "*Intermittent and remittent fevers.*"—"The appearances presented after death are very variable: we know of none which may be called pathognomic of the disease; the spleen is sometimes found increased in size and consistence, particularly when the disease has been of long standing." "*Contagious fevers.*"—"The organs to which those symptoms are referrible, which characterized the disease, present various alterations in their appearance and texture, but in some cases there is no appreciable alteration, particularly when the patient dies in the early stage of the disease."

We cannot conclude this article without returning our thanks to Messrs. Togno and Quain—to the former for his excellent translation of Bichat—and to the latter for his version of Martinet. To Mr. Quain is especially due an expression of indebtedness, for enriching his author's work with many valuable notes and additions. In no literary labour can the juniors of the profession engage with more benefit to themselves and profit to the public, than in rendering into their own language the medical productions of those who write in other tongues.

ART. II. *A Treatise on Retention of Urine, caused by strictures in the Urethra; and of the means by which obstructions of this canal may be effectually removed.* By THEODORE DUCAMP, Doctor of Medicine of Paris, &c. Translated from the French, with Notes and Additions. By WILLIAM M. HERBERT, M.D. New-York. 8vo. p.p. 220. 1827.

WE consider judicious monographs, even if they contain nothing that is new, as much more conducive to the advancement of medical science than systems and vade mecums. Of these last, the former necessarily contain a large proportion of error, and the latter are encouragements to idleness.

The work of M. Ducamp, besides posting up in a tolerably satisfactory and candid manner, all that it is necessary to know on the nature and treatment of strictures of the urethra, offers a new and ingenious mode of curing th and dangerous maladies. It acquired for its author a very just celebrity in France, which he has not lived to enjoy. His translator, a graduate of the College of Physicans of Surgeons of New-York, at the commencement of the year 1827, by a remarkable coincidence, has also been called away from a community which he might have filled with his fame, and a profession he was fitted to honour.

The work commences with a very good description of the urethra in the male—and an exposition of the cause of strictures, which he attributes to a chronic inflammation and thickening of the urethra and circumjacent parts.

> " Strictures may be produced by the induration of the mucous membrane alone; but occasionally the irritation extends to the adjacent cellular tissue and corpus spongiosum: these parts, which are naturally very pliant, lax, and extensible, harden and become dense; the cellules of which they are composed are obliterated, either by the adhesion of their sides, or by the deposition of coagulablc matter within them; and the canal undergoes an actual strangulation in the part affected. The passage of the urine is then obstructed in a greater or less degree, both by this coarctation, and the intumescence of the mucous membrane."—p. 8.

We are surprised to find no mention made of the effects of falls upon the perineum, by which the urethra is often lacerated. Some of the worst strictures that are met with, arise from this accident. The early introduction of bougies alone will prevent the cicatrix from narrowing the urethra.

> " Whatever may be the seat or nature of the stricture, the symptoms which attend it are nearly the same, or vary only in proportion to the narrowness of the passage that is left for the urine, and the duration of the disease. If the stricture be inconsiderable, the urine flows in a small twisted or bifurcated stream: the patient passes his water slowly, and suffers no other inconvenience than a slight scalding during its evacuation, with a sense of weight at the perineum, and itching along the course of the canal. The stream gradually becomes more slender and weak, the patient takes a longer time to make water, although he passes less at once; he also experiences a greater degree of micturition, so frequent and so urgent as to oblige him to rise several times in the night. The discharge of the urine can now be accomplished only by continued efforts, and is attended with acute pain, and tumefaction of the penis. If, after having

voided as much as he is able, the patient should repeat his efforts, he can yet procure the discharge of a small quantity; an evidence that the bladder has not been entirely emptied. He experiences, particularly after having retained his water some time, a sense of weight in the groins, and pain above the symphysis pubis; if the hand be applied to the latter part, a smooth, hard tumour will be felt, which, upon being pressed, causes exquisite pain, and most commonly excites a degree of micturition. This tumour is formed by the bladder inordinately distended. In this stage of the disease, the slightest fatigue or the least excess may cause an entire obstruction of the passage of the urine, and reduce the patient to a very critical state.

"But the difficulty of making water may arrive at a still greater height. Indeed, we sometimes meet with persons, in whom the stream is so feeble, that instead of being projected to a distance from the penis, it falls vertically between the legs, like the jet of a glass-cutter's wheel.

"The condition of others, again, is yet more deplorable; the urine escaping only drop by drop, and the quantity discharged at a time not amounting to more than four or five teaspoons full, although the patient occupy ten minutes in the attempt. Persons in this state feel a constant inclination to make water; and their existence is passed in miserable perplexity, between the desire and the dread of obeying an urgent impulse. Indeed, nothing can be more painful or exhausting than the urinary evacuation, under such circumstances; so laborious are the efforts of the patient, that his knees tremble, his face becomes flushed, the perspiration bursts from his forehead, and the contents of the rectum accompany those of the bladder, so that the same posture becomes necessary for the latter evacuation that is usually adopted for the former. A merchant, whose case will be hereafter detailed, and who had several strictures in the urethra, being reduced to this state of torture, but, nevertheless, under the necessity of attending to his business, and of passing his water in the street, was in the habit of carrying about him rolls of linen or soft paper, which he would introduce into the anus, and firmly hold there during the evacuation, in order to prevent the expulsion of the fæcal matter. The straining necessary in his case to discharge the urine, was such as to cause an enormous inguinal hernia; a disorder, indeed, not uncommon to persons attacked with retention of urine, in whom, also, for the same reason, we often meet with prolapsus ani.

"*Incontinence of Urine.* When the stricture in the urethra is inconsiderable, it commonly produces, at the same time, both strangury and incontinence of urine. The latter symptom manifests itself in two ways: most generally, a small quantity of urine flows guttatim for a few minutes after the patient has made water. At other times the liquid escapes also in drops, after any very violent exercise. The rationale of the first phenomenon is this: the urine passing with much difficulty through the stricture, its expulsion requires strong contractions of the bladder and abdominal muscles; when these contractions have ceased, that part of the urethra which is behind the obstruction, contains a certain quantity, which being higher than the opening in the stricture, flows in drops by the mere force of gravity, and falls upon the clothes. If, under such circumstances, the patient neglect to change his linen with suitable frequency, he will be constantly bathed in urine, and diffuse its disagreeable odour wherever he may go.

" The other species of incontinence is produced in a different manner; and occurs only when the expulsion of urine is extremely difficult. In such cases the bladder being almost constantly over-distended. The accumulation of the fluid is no longer limited by the neck of this organ, the sphincter relaxes, the urine dilates that part of the urethra which is behind the obstacle, and it is then the latter and not the neck of the bladder by which it is confined. Whenever, in such a situation, the patient coughs, walks fast, or exercises his body in any manner, the contraction of the abdominal muscles compresses the bladder, and propels some drops of water through the opening in the stricture in such a manner as to wet the linen. Here it is very difficult for the patient to avoid uncleanliness and fœtor, for the fæcal matter is often expressed at the same time with the liquid excretion.

" *Complete Retention.* Whatever be the degree of strangury—whether the urine flow in an extremely attenuated stream, in an uninterrupted succession of drops, or only drop by drop, there is yet an aggravation of the disorder to be apprehended far more serious in its consequences; namely, the impossibility of passing a single particle of urine—constituting what is called complete retention.

" The least imprudence, the most trifling excess may occasion this terrible consummation. And this we may easily conceive; the strictured portion of the urethra, continually irritated by the pressure of the urine forcibly propelled against it, is rarely free from inflammation, which, if it be but inconsiderably augmented, will cause a greater afflux of humours in the vessels of the part affected; hence a greater or less degree of tumefaction, which may increase the stricture so much as to obstruct the passage of the urine completely."—p. 13–16.

" It is rare to see a man having stricture in the urethra and at the same time enjoying full health. His digestion is more or less depraved, and he often manifests an inordinate irascibility. But the most remarkable consequence experienced by persons in such a condition, is an attack of fever more or less complete, and coming on at indeterminate periods. In some it consists of an intense head-ache, with heat of the skin and acceleration of the pulse; others have a chill which is followed by a slight sweat, but without increase of temperature. In others again,—and these are the most numerous—the paroxysm commences with a violent chill and rigors followed by a hot skin, frequent pulse, and sometimes delirium, terminating in copious perspiration; presenting, indeed, all the characters of a regular fit of intermittent fever."—p. 20.

" Such are the most prominent symptoms of a stricture in the urethra:

their presence constitutes the diagnosis of this disease. To recapitulate summarily—whenever a person makes water with difficulty, and in a very small stream—when his attempts are frequent, but productive of a scanty discharge—when he constantly, or at intervals, feels a sense of weight at the perineum—itching along the canal—a flow of mucus, and irregular paroxysms of fever—we are almost positively certain that such a person has one or more strictures in the urethra.

"We may ascertain the truth by introducing a bougie into the canal: if the instrument be stopped in its progress, or tightly wedged in a particular part of the route through which it has to pass, the existence of a stricture ceases to be doubtful."—p. 21.

The author goes on, page 22, to give the ratio symptomatum—

> "The part of the urethra which is behind the stricture, retaining its natural dimensions, receives from the bladder during the discharge of urine, more of this fluid than the obstacle will suffer to pass at a time; the latter, therefore, represents a kind of dyke, which confines a part of the water that flows against it. In this state of things, the urine continuing to be impelled with force by the contraction of the bladder and abdominal muscles, presses more and more upon the part of the urethra posterior to the obstruction, and distends it beyond measure."

This view of the subject is correct, so far as it goes; but other changes take place. The bladder, like other muscles, inordinately called into action, acquires great strength and thickness, and constantly irritated, contracts to a small pouch incapable of holding more than an ounce of urine. Hence it happens, that even for some time after the stricture is removed, the patient is still unable to retain his urine more than a few hours. It is important to bear this circumstance in mind, because it will be found that the degree of stricture is proportioned to the frequency of urinating.

After explaining, in a very clear and satisfactory manner, the mode in which urinary fistulæ are caused by gangrene, ulceration, or rupture of the perineum, and citing a valuable, and the more valuable, because common, case of rupture of the urethra, by the forcible introduction of a bougie, the author thus adverts to the formation of abscesses near the urethra, but not originally communicating with it.

> "The inflammation and distention of the urethra behind the stricture, the sources of all the evils we have just described, may also occasion others. It is admitted that inflammation does not always confine itself to the irritated organ, but afterwards extends to the parts in its neighbourhood: it is thus that the inflammation of a tooth is communicated to the investing cellular substance, and causes an abscess in the gum or in the cheek—that an inflammation of the interior of the larynx gives rise to an abscess in the parts surrounding the cartilages of that organ—that chronic irritation of the arms occasions an abscess in the nates;—so the inflammation of the urethra extends, in some cases, to the surrounding cellular tissue, and causes the formation of an abscess.
>
> "The deposition of pus in this place is announced by a sense of uneasiness and weight in the perineum; in a short time a small tumour makes its appearance in this part,—increases in size—becomes the seat of pulsating pain—and manifest signs of fluctuation soon appear; the patient at the same time experiences chills and a certain degree of fever. The tumour grows larger, and becomes more soft daily; and if the pus be about to make its way through the skin of the perineum, the integuments in this place become thin and ulcerate, and a certain quantity of a white homogeneous pus, without any proportion of urine, makes its escape. On the other hand, the skin sometimes remains untouched, and the abscess opens into the canal. If the aperture which yields a passage to the purulent matter be behind the obstruction, the urine, being interrupted in its course, enters the cavity of the abscess, and produces all the mischief of a urinary infiltration. If, however, the opening be situated before the stricture, the canal being unobstructed beyond it, the water meets with no impediment in its course, and may pass over the abscess without entering it or producing extravasation."—p. 28, 29.

The bladder in those who have strictures, discharges only so much of its contents, as to preserve it from over-distention. "Why," asks the author, "cannot the bladder discharge above one fourth of its contents, when there exists but an inconsiderable stricture in the urethra?" The cause "cannot be in the canal, for as it allows one fourth, it might in time suffer also the other three to follow.—It is not in the liquid itself; for that which is evacuated presents precisely the same character as that which is retained."—"The cause of the phenomenon lies in the bladder."

The author made the following experiment.

> "When strongly urged by a desire to make water, I compressed my penis, near the glands, in such a manner as to allow the urine to pass only

in a very small stream. I soon experienced great pain in the course of the canal; the desire of evacuating the bladder became more vehement, and the efforts of expulsion more considerable. It was not long before I felt a painful sense of gravitating pain in the region of the bladder and in the groins, and the canal at length gave me such anguish, that I mechanically removed my hand, and restored its natural calibre. I afterwards repeated the experiment with more resolution; the same pain and torture were endured, and became so exquisite, that it appeared as if the urethra would burst, though I had no apprehension of such an accident. At short intervals the pains increased in violence; gradually, however, they diminished, and I ceased to make water, although I had not voided half my usual quantity. The pain still continued very considerable in the urethra. After the lapse of a few minutes, wishing to know whether I had completely emptied my bladder, I attempted to make water, and passed about as much as had flowed during the experiment. This operation I have repeated several times, and always with the same result. Hence I have concluded, that it is the nature of the contraction of the bladder not to be durable, and that after a certain time it ceases, notwithstanding the continued action of the stimulus by which it was first excited; consequently that the ejection of urine is incomplete in cases of stricture, because the time required for its passage far exceeds that for which the bladder may continue its contraction; and which is still more shortened by the patient, as far as lies in his power, on account of the pain which it occasions him. Directing my attention afterwards to the contraction of other muscular parts, I found it durable in none, and that all require intervals of relaxation, though habit may diminish the permanency of the latter."—p. 32, 33.

Treatment.—The author gives the preference, and very justly, we think, except in cases of very narrow strictures, to the wax bougies. In narrow strictures, they have not sufficient firmness, and become too soon soft by the heat of the urethra. Those of gum-elastic are to be preferred.

"When the bougie is introduced, it is to be fastened, that it may not escape from the canal. For this purpose, various methods have been devised. The following is the one most used: two or three needles full of cotton are twisted together, and tied by the middle to the end of the bougie in a double knot; the two ends of the thread are then carried above the gland, where they are united, also by a double knot, and then brought back to the end of the bougie, where they are again secured in the same manner. This kind of bridle has one disadvantage, that of compressing and strangulating the penis, during the frequent erections that take place under the use of these instruments. The same ligature has been fastened under the prepuce; but this has the additional inconvenience of irritating and even ulcerating the gland. Several kinds of elastic rings have been

> invented, all of them more or less complicated. I made one of my patients use a very ingenious apparatus. It consisted of a band of caoutchouc united at the extremities so as to form a ring, and of a cundum. After having introduced the bougie, he bent it half an inch from the end, so as to make it at a right angle with the orifice of the urethra. This hook being made, he covered the bougie and penis with the cundum, over which he slipped the gum-elastic ring. This contrivance possesses three advantages. 1st. The ring expands at the time of erection, and does not embarrass the penis: 2d. With the precaution of leaving two or three inches of the bougie beyond the penis, when the erection of the latter takes place, it extends along this portion of the instrument, and does not force out of the stricture that part of it which lies in the opening: 3rd. The matter of the discharge is received on a piece of soft linen, placed within the cundum, so that the patient's clothes are not soiled. I constantly use the ring of caoutchouc. I fasten a thread to the extremity of the bougie, then bringing the ends, right and left to the sides of the penis, over which I slide the ring, they are returned to the end of the instrument, and then made fast by a double knot.
>
> "The bougie being fixed by any of the foregoing methods, the patient wears it a longer or shorter time, according to the degree of pain it occasions. It is advisable not to leave it in the canal longer than half an hour, morning and evening, for the first few days. Afterwards, most practitioners do not withdraw it, except when the inclination to make water is very urgent, and replace it as soon as the patient has satisfied this want. Others do not remove it even at those times, if the patient can void his urine with it in his canal. In this case it is renewed only once a day, or perhaps only once every other day. The size of the bougies is increased gradually as the stricture is dilated, until one can be passed equal in diameter to the natural calibre of the canal."—p. 44–46.

This treatment may be applicable to many cases, especially in hospitals, where our patients may keep in their beds, or at any rate not move about much. But in private, and in general even in hospital practice, the introduction of a bougie every other day and afterwards daily, suffering it to remain in the urethra from five minutes to two or three hours at a time, we have found far preferable, and this is the common practice of the English surgeons.

But what are we to do in those but too frequent cases in which the bougie cannot be passed at all? We do not perceive that the author notices the proposal of Duypetren, which is, to pass a bougie down to the stricture, and to leave it there several hours, and then renew the attempt; a practice of which we cannot speak from our own experience. But he adverts, with just censure, to the use of conical steel and other metallic catheters which are calculated, in our opinion, to do serious mischief.

The author prefers puncturing the bladder above the pubis, on account of the greater facility with which it may be performed. We cannot think that even on this account it should be preferred to puncture through the rectum.

The author next passes in review the treatment of Hunter by the nitrate of silver, and of Whately by kali purum, giving, we think, rather an exaggerated account of the disadvantages of each, and then sets forth his own peculiar method.

The indication is, " to destroy the morbid disposition of the parts which form the stricture, and to reduce them to a level with the rest of the canal.

" Caustic, to be employed as advantageously as possible to a stricture in the urethra, should come in contact with nothing but the stricture, and touch it from within outwards throughout its whole extent, affecting no other part than that which obstructs the passage of the urine. For this purpose it would be necessary, before attempting the application of the caustic, to ascertain exactly the situation of the point to be touched.

" It is important to determine with precision at what distance from the orifice of the glans, the stricture we propose to treat is situated. For this purpose the canal must be explored with a catheter of middle size, in order that it may pass readily through the sound parts of the urethra, and be arrested by the first strictured point that it encounters. It is customary to employ a plaister bougie on which a mark is made with the nail near the orifice of the glans. I make use of a hollow bougie of gum-elastic, of the size No. 6, on which are marked the divisions of a foot rule. On introducing this bougie, I always know the distance to which it has penetrated the urethra; and when it is stopped by a stricture, I perceive immediately that such stricture is at the distance of so many inches and lines from the orifice, which I note down.

" Having ascertained this point, I immediately proceed to the examination of another, which is the situation of the opening in the stricture. In order to do this, I take an impression of the stricture in wax, and I obtain in relief the form of its anterior extremity. For this purpose I make use of the following instrument, which I call an *exploring catheter*. I take a bit of sewing silk, and having tied several knots in it, and dipped them in melted wax, I round off the wax in the manner represented in fig. 7, pl. I.

By means of a bit of edging I pass the silk into the catheter, entering at the larger opening; when it has reached the other opening, the bulb formed by the knots covered with wax is detained, while the silk passes on and forms at the extremity of the catheter, a pencil of fine downy threads, both soft and strong; or else I pass the bit of flat silk through four little holes situated near the end of the instrument, and uniting them together in a knot, I afterwards spread them out in the form of a pencil. This pencil is soaked in a mixture composed of equal parts of yellow wax, diachylon, shoe-maker's wax, and resin; I take a sufficient quantity of it to enable it when rounded off to equal the bulk of the catheter. I let this *moulding wax* grow cold, and softening it between my fingers, roll it upon some hard polished surface. I cut this kind of bougie added to the gum-elastic canula, at about two lines from the extremity of the latter, round off the wax like the end of a catheter. By this arrangement, the moulding wax, mingled with the filaments of silk, becomes incorporated with them, and cannot fall off. I introduce one of these catheters into the urethra, and after I have arrived at the stricture, I leave the instrument in its place for a few moments, in order that the wax may have time to grow warm and soften, when the catheter is pushed forward; the wax being thus *pressed* between the catheter and the stricture, fills all the sinuosities of the latter, enters its opening, and in a word, is moulded according to its figure. The catheter being completely withdrawn, I find at its extremity the form of the stricture."—p. 104, 105, 106.

We must omit some further details, which can only be made intelligible by reference to plates.

The author proceeds:

"Having taken an impression of the stricture, we know whether its opening be in the middle, above, below, or at either side: we want, therefore, an instrument which will enable us to direct at will, the point of the bougie to the middle, upper, lower, or lateral part, in order that it may correspond with the aperture in the obstacle, and enter it.

"To effect this, I make use of an instrument which I call a *conductor*. It consists of a gum-elastic catheter, of the size No. 8 or 9, eight inches in length, open at both ends, and marked, like all my other instruments, with the divisions of the foot. I close the anterior extremity of this instrument, with a stopper of wax and silk, in order that the fluids in the urethra may not penetrate the interior of the conductor, and I mould this waxen stopper on the end of the catheter, so as to give it an uniformly rounded extremity. The instrument being oiled, is introduced down to the stricture, and the stopper is withdrawn. When the orifice of the stricture is in the centre, the canal forms, at the strictured part, a section of a cone, having at its apex the aperture through which the bougie is to pass. Now, [illegible]ductor also represents a section of a cone, open at its top, and the consequence is, that when the conductor is applied against the obstacle, its opening corresponds with that of the latter; so that a bougie necessarily enters the orifice of the stricture so soon as it has passed that of the conductor. To this we may add, that the bougie cannot vacillate in the conductor, and you may be certain that the introduction of a bougie by this method, is always very easy, when the opening in the stricture is at the centre.

"When this opening is situated above, below, or at either side, the canal still represents in the strictured part, the section of a cone, but the opening is not at its summit; accordingly the opening of the conductor will not correspond with it, but with some solid part; the conductor, therefore, which I have just described, would not answer in this case. I then employ a conductor which has an eminence of a certain size at one of its sides, near its extremity. By this arrangement the orifice of the conductor is no longer in the middle of the instrument, but on one side. Having ascertained by the form of the impression that the aperture in the stricture is situated at its upper part, I introduce the conductor, and turn downwards the eminence which it has at its extremity; the opening is thus turned upwards, and corresponds exactly with that of the obstacle, so that a bougie passing from the one, necessarily enters the other. If, on the contrary, the opening in the stricture be at the lower part, I direct the eminence in the conductor upwards; I turn it to the right when the aperture is at the left, and to the left when it is at the right; so that I direct at will the point of the bougie into the orifice of the stricture."—p. 109, 110.

We forbear to make further extracts illustrating the subsequent manipulations, which cannot be rendered intelligible without reference to plates.

After opening a passage through the urethra with caustic, the author employs bellied bougies to complete the cure; but upon the whole, seems to prefer distending it with air, introduced through a tube and forced by a syringe into the processus vermiformis cæci, manufactured like gold-beater's skin. These we think are unnecessary refinements. The substantial merits of the author are the discovery of a means of modelling a stricture, and his peculiar method of cauterizing it.

Among other valuable notes by the able translator, we subjoin the following.

"M. Ducamp mentions but two modes of effecting the dilatation of the urethra. There is another, not undeserving of attention, particularly when we reflect that no art requires so great a variety of resource as that of curing diseases. This method consists in the forcible injection of fluids into the canal. Mr. Sœmmering has sometimes adopted this plan in cases where the stricture was so narrow as not to admit the finest bougie. It is done by injecting olive or poppy oil into the canal, closing the orifice of the glans, and then by pressure with the fingers, attempting to propel the liquid through the obstacle. This manipulation is to be repeated until a bougie can be introduced.

M. Amussal affirms that this process is preferable to the use of bougies, at the commencement of the dilatation of a stricture; that it is applicable to cases of complete retention; and that it may also be had recourse to, to assist the action of flexible catheters; that is to say, when the stricture has been sufficiently dilated by injections to permit the introduction of a catheter, it will be advantageous to force the liquid between the instrument and the parietes of the urethra."—pp. 218.

ART. III. *On the Atomic Theory of Chemistry.* By JOHN FINCH, M. C. S. &c.

2. *Electro-Magnetism; being an arrangement of the principal facts hitherto discovered in that science.* By JACOB GREEN, M.D. &c. Philadelphia, 1827.

THE paper of Mr. Finch under the foregoing imposing title, is published in the 29th number of the American Journal of Science and the Arts. We should not have noticed this production, did we not conceive that the author is completely *at fault* in his notions, and did we not fear, that from the wide circulation of the journal in question, he might mislead, or at least confuse some who are commencing chemical studies.

So far as we can understand this paper, the main object of the author is to point out the advantages which would result from considering water a compound of one atom of oxygen, and *two* atoms of hydrogen, a theory proposed several years since by Sir H. Davy, but which, with two or three exceptions, was not adopted by the best chemists.

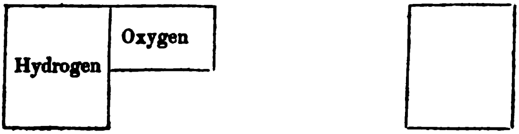
The advantages which Mr. Finch promises from the adoption of this theory are,—1st, that the theory of volumes will then coincide with the theory of atoms; 2ndly, that the numbers representing the atoms or volumes of substances, will approach very near to their specific gravities.

But the author has omitted to mention the inconvenience attending this supposition, and which, in our judgment, is far

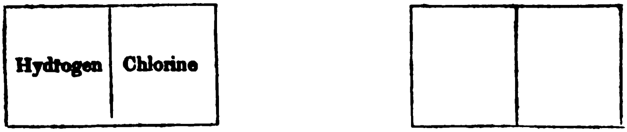
greater than the evil it is intended to remedy. To demonstrate this more clearly, we shall offer the following symbols, representing the composition of the several substances, in volume, according to the most approved chemical authors.

Water.

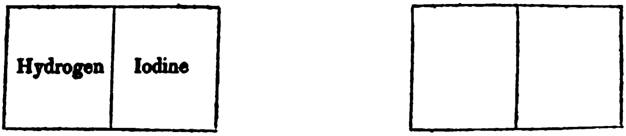
Resulting volume.



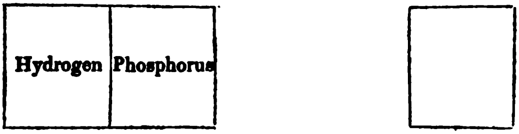
Muriatic acid.



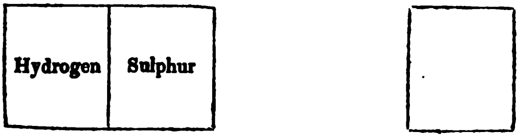
Hydriodic acid.



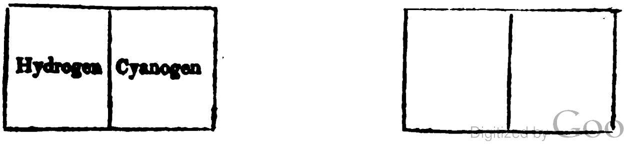
Phosphuretted hydrogen.



Sulphuretted hydrogen.



Hydrocyanic acid.



It will be observed, that in each of these compounds the volume of hydrogen is the same; that water consists of one volume of hydrogen, united with half a volume of oxygen; and that all the other compounds consist of one volume of each of the constituents. Now if we adopt Mr. Finch's theory, that water is a compound of one atom of oxygen, and two atoms of hydrogen, muriatic acid should be a compound of one atom of chlorine and two atoms of hydrogen, although formed of one volume of its constituents. Sulphuretted hydrogen should consist of one atom of sulphur, and two atoms of hydrogen, though composed of one volume of each of these elements. The same remark applies to hydriodic acid, hydrocyanic acid, phosphuretted hydrogen, and indeed to most of the compound gases containing hydrogen. How far then this supposition would effect the first object proposed by Mr. Finch, we need not stop to inquire.

This theory found a more able advocate in Dr. Ure, whose remarks at first sight have the appearance of great plausibility. "For aught we know," says he, "water may be a compound of two atoms of hydrogen and one of oxygen; in which case we should have the proportion of the weights of the atoms as given by equal volumes, namely, 1 to 16. There is no good reason for fixing on one compound of hydrogen more than on another, in the determination of the basis of the equivalent scales. If we deliberate on that combination of hydrogen in which its agency is apparently most energetic, namely, that with chlorine, we would surely never think of pitching on *two* volumes as its *unity* or least proportion of combination; for it is *one* volume of hydrogen which unites with one volume of chlorine producing two volumes of muriatic gas. Here, therefore, we see that one volume of hydrogen is quite adequate to effect, in an active gaseous body of equal bulk, and thirty-six times its weight, an entire change of properties. Should we assume in gaseous chemistry, two volumes of hydrogen as the combining unit, or as representing an atom, then it should never unite in three volumes, or an atom and a half with another gas. Ammonia however is a compound of three volumes of hydrogen with one of azote;

and if two volumes of hydrogen to one of oxygen be called an atom to an atom, surely three volumes of hydrogen to one of azote, should be called an atom to half an atom." *Chemical Dictionary*, 2d. Ed. 423.

To these suggestions, Dr. Turner in his excellent little treatise upon the laws of chemical combination, offers the following satisfactory reply.

1. Water is composed of one volume of oxygen to two volumes of hydrogen; euchlorine of one volume of oxygen to two volumes of chlorine; and both compounds are supposed to contain an atom of each constituent. An atom of hydrogen is therefore represented by two volumes of hydrogen, and an atom of chlorine by two volumes of chlorine. But muriatic gas is composed of one volume of hydrogen to one volume of chlorine, or, what is the same thing, of two to two: hence it contains an atom of each. We see, therefore, that the same quantity of hydrogen which combines with an atom of chlorine, also combines with an atom of oxygen; and that the example adduced by Dr. Ure, is a most powerful and convincing argument in favour of the very doctrine against which he contends.

2. A similar argument applies to the constitution of ammonia. In fact, nitrous oxide gas is composed of one volume of oxygen and two volumes of nitrogen, but one atom of each element. An atom of nitrogen is therefore represented by two volumes of that gas, precisely as happens with respect to hydrogen and chlorine. But ammonia contains three volumes of hydrogen and one of nitrogen, which is the same ratio as 6 to 2; and hence it is composed of one atom of the one, to three atoms of the other.

Mr. Finch has attempted a table of chemical equivalents upon his plan, which at least deserves the credit of originality. For example, protoxide of chlorine is said to consist of *two* volumes of oxygen and one volume of chlorine; sulphuretted hydrogen, of *two* volumes of hydrogen and one of sulphur, &c. !!

In what is said by our author concerning the Daltonian formula, he has been combating a wind-mill of his own construction. Although unmeasured praise is due to Mr. Dalton for his researches, his formula has been greatly modified, and is not at the present time, rigidly adhered to by a single chemist.

Upon the whole, we regret that Mr. Finch should have ventured upon a subject with which he has evidently so little acquaintance, especially, a subject where novelty can only be excused in the most profound philosophy.

Of the work of Dr. Green we have only a few words to say. It is but a few years since Electro-Magnetism has risen to the rank of a distinct science. The distinguished attention which it has received in various European countries has been followed by discoveries the most novel and interesting; and the facts connected with it have now become so numerous as to require for their due consideration distinct and by no means limited treatises. Several works of this description have been published or are now in the course of publication in England and France; but if we except what is contained in the translation of Biot's Elementary Treatise, we have had nothing on the subject from the American press.

So far then as it regards the general diffusion of science among our citizens, we are greatly indebted to Dr. Green for the Manual before us, which, as its titlepage informs us, contains the "principal facts" in the science, although we cannot say much in favour of their 'arrangement.'

Dr. Green, in the composition of this work, has availed himself of the fragments which are scattered through the numerous scientific periodicals of the day. So far as we can judge from an attentive perusal, he is most largely indebted to the Historical Sketch of Electro-Magnetism in the 18th and 19th vols. of the Annals of Philosophy.

It would have been a great convenience to those who wish to pursue the science if Dr. G. had given more frequent references to the original papers from which his extracts are made. For example: "Note C. on electrical quantity and intensity," is copied without reference from an excellent article on Electro-Magnetism in the 35th volume of the Quarterly Review, a work within the reach of almost every American student.

We also regret that Dr. Green has not indulged his readers with a little more theory, which, after all the hue and cry against it, now-a-days so fashionable, serves at least the purpose of artificial memory; and in this respect is of great use to the student.

Notwithstanding these regrets, we are highly gratified with the appearance of this volume, and we doubt not that it will be very generally in the hands of chemical students.

QUARTERLY HISTORY

OF

IMPROVEMENTS IN MEDICINE AND SURGERY.

Foreign.

PHYSIOLOGY.

On Cutaneous Absorption. (*Arch. Gén. de Médecine. xi.* 75, *and Bib. Méd. Juillet* 1827.)—The subject of cutaneous absorption, and of absorption generally, has been lately investigated by M. Collard de Martigny. He has succeeded in establishing completely the reality of absorption through the skin, and has thrown considerable doubts over the doctrine advanced a few years ago by Magendie and Fodera, and now so generally adopted, that substances are absorbed throughout the animal system by a process of simple mechanical imbibition. As his experiments on these two topics appear to us important and conclusive, we shall give a short account of them. It is well known that Seguin, Magendie and other anterior physiologists have maintained that the skin, when not deprived of its cuticle, is incapable of absorbing any substances which do not irritate the cuticle, or alter it in one way or another. This, however, does not appear to be the general opinion; yet we are not aware that any very conclusive arguments have hitherto been brought forward to prove the existence of simple absorption through the cuticle. The vagueness of the foundation on which the general opinion rested led M. de Martigny to endeavour to establish it upon more solid facts; and he has made a great variety of experiments, which seem to put its accuracy beyond all question.

He first placed upon the palm of the hand an inverted glass funnel filled with water, and remarked an obvious diminution of the water in the tube of the funnel after an hour or even less. He then varied his experiment, using precautions to preserve the pressure of the hand on the funnel uniform, as well as to prevent the evaporation of the water, and he still observed a sensible diminution. The following very simple experiment gave equally pointed results. In two small vessels of the same form and size he placed equal quantities of water, one being placed at his side exposed on the surface to the air, while into the other he put his two hands for half an hour. He then removed them and dried them in a handkerchief, the weight of which was taken both before and after this operation. The water of the two vessels was likewise weighed, and the proper correction being made for what was removed by the handkerchief from the hands, he found that 178 grains had been lost by absorption. Similar experiments were made with milk and with beef-tea, and the results were analogous. It appeared to him that the beef-tea was absorbed more rapidly, and milk more slowly than water. On subsequently resuming the investigation, he employed a still simpler method. He placed a few drops merely of the fluid to be examined on the inside of the arm, covering them with a small watch-glass, and allowing the experiment to go on for eight or twelve hours and upwards. In this way he remarked that water and brandy were absorbed altogether, and wine, beef-tea, and milk almost entirely. On next extending his researches to oleaginous substances, he arrived at the singular conclusion, that cutaneous absorption is not exercised upon them at all. Our readers will perhaps remember that Bichat, Magendie, Legallois, and others, have found that oleaginous fluids, directly introduced into the blood, obstruct its passage through the capillaries, and excite inflammation there. They likewise appear to undergo a species of digestion before they enter the lacteals, when they are swallowed as food; and further, when placed in contact with the serous membranes, they are absorbed very slowly, and not till they undergo a species of saponification. In a state of purity, therefore, they cannot enter the blood without causing serious injury. In the alimentary canal this is prevented by their digestion; in the serous cavities by their saponification through means of the serum. On the skin, where there is neither gastric juice nor a serous fluid, it is prevented by their being incapable of passing the cuticle. M. de Martigny found that they did not lose an atom of weight, after being eleven hours in contact with it.

The author concludes this department of his subject by endeavouring to determine the circumstances which regulate absorption through the skin. He has discovered that it is most rapid on those parts of the body where exhalation is greatest. He has farther remarked, that while exhalation is going on, there is no absorption; that absorption is diminished during exercise or by an increase of temperature; and that it is increased by a depression of temperature or by the evacuation of blood. In short, cutaneous absorption is influenced by every particular in the inverse ratio of cutaneous exhalation.

The other question which the author has endeavoured to investigate relates to the mechanism by which absorption is effected. The experimental inquiries of Magendie and Fodera are conceived by many physiologists to be conclusive of the fact, that absorption is carried on by a process of simple imbibition; in other words, that in reaching the absorbent vessels substances percolate the living exactly as they do the dead tissues. It has always appeared to us, however, that the experiments of Magendie were liable to important objections, and that even the more conclusive experiments of Fodera, while they prove that mechanical imbibition or filtration does sometimes occur in the living body as through dead membranes, do by no means also prove that this phenomenon is not materially under the influence of the vital principle. The experimental reasoning of these two physiologists has been very ably criticised by M. de Martigny, and its fallacies exposed. To the experiment of Magendie, which consists in insulating a vein and applying an active poison to its surface, he very properly objects that the poison may have entered the blood not by filtration but through the *vasa vasorum*. He admits, however, the conclusiveness of the experiment of Fodera, in which he found that substances injected into the peritonæum might be soon afterwards discovered in the chest; but he insists that the existence of such an imbibition is no argument against the existence also of a special action of absorption: and such a special action has, we think, been proved by him to occur in the following phenomena. Into the stomach of animals killed the previous day he injected a weak solution of hydrocyanate of potass, and four minutes afterwards he observed that the outer surface of the stomach became of a uniform blue colour when tested with the sulphate of iron. He then repeated the same experiment on living animals with the following results. Twenty minutes after the injection of the hydrocyanate, when none of it has reached the outer surface of the stomach, he poured several drops of the sulphate of iron over it. It was not till five minutes afterwards that he remarked here and there a faint blue tint not uniformly diffused as in the former instance, but arranged in a fine network; gradually the tint deepened and extended itself, its reticulated structure became less distinct, and at length a uniform blue stain was formed, as in the dead animal. It is not easy to see to what the slow progress of the fluid through the living stomach is to be attributed, unless to the permeability of the tissues being modified by their vitality. He has also endeavoured to establish the doctrine of special absorption by the following experiments, in which an attempt is made to show that absorption is under the influence of the nervous principle. Having divided all the nerves which supply the hind leg of the rabbit, he tightened a ligature round the whole thigh, exclusive of the vein and artery, and introduced a solution of the extract of nux vomica into the lower part of the leg. He then found that the poison operated more slowly than when the nerves were left entire. In conclusion, therefore, from these and other familiar facts, the author argues that the new doctrine of absorption must be modified by a partial return to the old: and he adopts the opinion, that this function is carried on by a special and elective action of the capillaries.—*Edinburgh Medical and Surgical Journal.*

PATHOLOGY AND PRACTICAL MEDICINE.

A Case of the Foramen Ovale remaining open in the Adult, with a general Narrowing of the Aorta and Arteries, without the Morbus Cyanosus.—It has generally been supposed that the cause of the blue appearance of the skin in the morbus cyanosus was the aperture between the auricles of the heart continuing pervious after birth. M. Miguel has lately met with a case where this communication continued open, and yet there was no blueness of the skin; proving that the generally supposed cause of the discoloration is not correct. The case is in itself interesting.

Jean Antoine Adam, a jeweller, æt. thirty-six, came into La Charité, under M. Cayol, August 1825. This man was fair, of small stature, and had never suffered from any severe disease; his complexion was red and white. When young, he was subject to occasional difficulties of breathing, coming on in fits, once terminating in syncope: antispasmodics usually removed them. He was married, and had several children. At the age of thirty, without any apparent cause, the fits of difficulty of breathing became more intense and more frequent. During eight days, he had daily three or four attacks, each appearing likely to terminate his existence. His face suddenly reddened, acute pain in the heart and head, with palpitations, continuing for about a minute; then he grew pale, and fainted. When the attack passed, he felt quite well, till another came on. This state (strange to say!) was looked upon as the indication of some pernicious fever, and large doses of quina were administered to stop its course, but which increased it. After continuing thus during a week between life and death, a change took place; the difficulty of breathing, which had been periodical, became constant, and increased in violence; and the headache became intense. Venesection was prescribed, and the man felt himself resuscitated by the operation, ("Je ressuscitai a mesure que mon sang coulait.")

For some weeks he was relieved, when the symptoms became again aggravated. He was again bled, and with similar success; and to this frequent bleeding, and the application of leeches, he owed the preservation of his life for six years. He says himself that there were more than 6000 leeches applied, and that he was bled seventy-two times during that period.

At the present time he presents the following symptoms: Face pale and emaciated, without the least appearance of the violet or blue colour of the lips, cheeks, ears, or any part of the body; extreme anxiety; respiration short, oppressed, and laborious; orthopnœa; short, teazing cough; the chest resonant on all points, and the respiratory murmur apparent throughout; the whole body is agitated by violent palpitations of the heart; the pulse was small, unequal, intermittent; the limbs œdematous; the abdomen large and tense, and gave an evident fluctuation; the extremities were cold, and the general temperature of the body was under the natural standard; the bowels inclined to constipation.

M. Cayol, in his diognosis, stated that there was considerable hypertrophy of the left ventricle, with narrowing of the orifice of the aorta by commencing ossification of the sigmoid valves. A diuretic mixture, with half a drachm of acetate of potash, was prescribed, with half a drachm of Aq. Lauri Cerasi.

The patient went on getting worse and worse. The smoking Datura Stramonium was tried, and for a short time gave much relief. The powder of Belladonna was also tried, and it appeared to soothe him a little.

On the 11th of September he died, and the body was opened thirty-six hours after death. On opening the chest, the heart, distending the pericardium, and pressing upon the left lung, appeared twice the natural size. The right ventricle and auricle contained some clots of black blood: their size was larger than natural. The auricles communicated by an opening as large as a two-franc-piece, evidently the foramen ovale, not obliterated. (*Revue Med.*)

Treatment of Tetanus.—At a meeting of the Westminster Medical Society, held in November last, Dr. Barry (whose name and reputation are familiar to our readers) made the following statement on this subject. "He had been at the head of the Medical department of an Army of 20,000 men, in the Portuguese service and been with it in the campaigns of 1813—4, when injuries of all kinds had been extremely numerous, and he had not seen twelve cases. In those which had come under his notice, he had at first been unsuccessful, he had tried every variety of treatment, and indeed had run through every plan which either experience or imagination could suggest. At length Dr. Fergusson of Windsor, who was his superior officer, came to his quarters; he conversed with him on the subject of tetanus, and had informed him of his great want of success. Dr. Fergusson inquired whether he had tried alternate doses of carbonate of soda and opium; he said not. Dr. Fergusson then informed him, that it had proved very successful in his hands, and recommended him to employ it in the next case which should offer. He had done so, and declared upon his honour, that although he had treated several patients immediately after, he had not lost a single patient. He had given the carbonate of soda to the extent of a drachm in solution at a dose and then followed it by a large dose of laudanum. The manner in which these remedies proved so beneficial, he was induced to think, was owing to the soda dissolving the thick mucous which covered the internalsurface of the stomach, and thus allowing the absorption of the opium, and therefore, indeed, it was the opium which produced the cure after all."—*Lancet. No. 222.*

The above mode of treatment has its origin in some experiments, made a number of years since by Humboldt on Stimulated Nerves. He applied the substances in question, alternately to the nerves of animals, and found that irregular action might be thus allayed.—(*Editors N. Y. M. & P. Journal.*)

On the Treatment of Intermittent Fever by the application of Sulphate of Kina to the Skin. (*Revue Medicale, Septembre* 1827.)—Doubts have been justly entertained whether the skin is capable of absorbing substances applied to it, unless the cuticle is previously abraded, or the substance is thrust through the cuticle by friction. It is agreed on all hands, however, that the surface of the true skin, stripped of its protecting cuticle, absorbs with rapidity; and our readers are probably aware that advantage has been lately taken of this physiological fact, in order to introduce into the system medicines which cannot be administered in sufficient quantity internally. M. Lesieur of Paris seems to have been the first who suggested the method now alluded to, and it has been since applied by himself and others to the administration of various active remedies. The paper of which a short analysis follows, is descriptive of the mode of treating intermittent fever by sulphate of kina administered in this way; and certainly the success and advantages held out by the author, M. de Martin, are very flattering. He states, that when the sulphate of kina is applied in a convenient form to a freshly blistered surface, it never, even when used in small quantities, fails to check the disease at once. In a state of purity it is ineligible, as it very soon irritates and inflames the surface of the true skin which is exposed to it, exciting livid redness, causing the formation of a gelatinous pseudo-membrane, and even destroying here and there the vitality of the surface of the skin, so as to produce small superficial sloughs. But when it is mixed in a state of fine powder with cerate, no such effects are produced, and in a short time it all disappears. The advantages of introducing the remedy through this channel are, first, that it can be safely and efficaciously used when owing to irritation or congestion in the alimentary canal, it is either unsafe to administer it internally, or useless, on account of its being rapidly discharged by vomiting or purging;—secondly, that a less dose acts with equal power; thirdly, that it acts more rapidly as the system is sooner brought under its influence:—and lastly, that it can easily be administered to those who are averse to take internal remedies, and more particularly to refractory children.—The circumstances connected with the action of kina through the skin illustrate well its mode of operation. M. de Martin remarks, that it cannot act by effecting a revulsion, or as a counter-irritant, because local irritation is not only not necessary to success, but even also prejudicial; for he has invariably found that the remedy was least certain in its effects, and that the largest doses where required when inflammation was excited. This is easily explained on the principle that it acts through absorption; for the gelatinous effusion which is thrown out in the cases in which inflammation is caused obstructs its access to the absorbing surface. In point of fact, a great part of the powder always disappears when inflammation is not produced. The following cases will serve as examples of the author's plan of treatment. *Case VI.* A stout man, thirty-five years of age, had been affected for three months with a quartan ague, which had been checked four times by various preparations of cinchona. In the fifth attack, M. de Martin found him at the commencement of the fit with a frequent, strong, hard pulse, intense heat, flushed countenance, frequent strong cough, mucous expectoration, short breathing, pain under the left nipple, and a dry, red tongue. On account of the pulmonic affection, sixteen ounces of blood were taken from the arm. The fit returned again three days afterwards. Next morning, a blister having been applied three days before, and the part continuing to present a fresh surface, six grains of sulphate of kina were mixed with the cerate with which it was dressed, and twenty four hours afterwards the dressing was changed, and six grains more applied in the same manner. He had not any return of the fit, and from that time improved rapidly in general health. The blistered surface was not in the slightest degree irritated. *Case V.* A woman, twenty-three years of age, long liable to pulmonary catarrh, and affected for a year previous with wandering pains in the chest, oppression there, and dry cough, was attacked towards the end of November 1826, with quotidian ague, of which she was cured by the internal exhibition of sulphate of kina. Towards the close of December the disease returned, still in the quotidian form. During the fit the heat was intense, the pulse strong and frequent, the general oppression considerable, the breathing difficult, and interrupted by paroxysms of violent cough. She was bled to eight ounces during the second paroxysm. On the morning of the third day, four grains of sulphate of kina, mixed with cerate, were applied to an old blistered surface. The paroxysm never returned. The dressing was renewed every twenty-four hours for four days. The cough and difficulty in breathing continued after the ague had long ceased. The blistered part became somewhat red at first, and a thin pseudo-membrane was formed; but the irritation slight from the beginning, gradually diminished, and at length disappeared before the fourth dressing. *Case II.* This case exemplifies the kind of local inflammation which is caused by the remedy when not mingled with unctuous substances, as well as the effect of the inflammation in preventing its being absorbed. A soldier had suffered in the course of five months repeated attacks of tertian intermittent, and came under M. de Martin's care after the third paroxysm of a relapse. On the morning of the day on which he expected another, six grains of powdered sulphate of kina were sprinkled on a freshly blistered surface. The paroxysm appeared soon afterwards. Next morning the blistered surface had a deep red colour, was covered with a gelatinous exudation, and likewise showed here and there little yellow spots, which consisted of particles of kina covering little depressions in the cutis vera. Six grains of sulphate of kina were again applied, however. But now the pain became so intense, and the surface so red, that it was necessary to remove the powder, and apply a poultice. On the third morning the blistered part was covered with a thick, livid, moist eschar, having red edges, from which serum was discharged. The paroxysm reappeared this day, and again on the third, fifth, seventh, and ninth days afterwards. During this period the eschar became first black and dry, then round the edges soft and yellowish; and this softening extended inward in the way usual with superficial eschars of the skin. After the sixth paroxysm the sulphate of kina was given internally, with the effect of checking the disease at once.—*Edin. Med. and Surg. Journ.*

On the use of Tannin as a remedy for Menorrhagia. (*Annali Universali de Medicina, Aprile* 1827.)—This substance has lately been employed, it is said, with very great success, in the treatment of uterine hemorrhage by an Italian physician, Dr. Porta. He has used it for three years, and has never found it fail but twice. The general results he has been led to by his practical experience are, that tannin has a special action on the uterus when the hemorrhage is active, whether it arises from chronic or acute metritis, but that in the latter case the inflammation must be previously combated by repeated copious blood-letting; that it is not of any use in hemorrhage connected with organic disease of the uterus; and that its action is very rapid, while the quantity required to effect a cure is so small as to be easily borne on the stomach. He has published several of the cases which have led him to these conclusions. The following is an abstract of a few of them. *Case I.* A woman of middle age, and of a bilious irritable temperament, after recovering from a severe attack of miliary fever, was attacked during convalescence with considerable uterine hemorrhage. Conceiving at first that it was nothing more than a permature appearance of the catamenia, she for some time paid little attention to it; but after it had continued several weeks, and had greatly reduced her strength, she became alarmed, and consulted Dr. Porta. He ordered her to take two grains of tannin every *two* hours, and in two days the hemorrhage ceased altogether. *Case II.* A woman, thirty-two years of age, of delicate habit, and nursing a child four months old, was seized with uterine hemorrhage, which, like the former patient, she at first imagined to be the catamenial discharge. As it continued, however, much longer than usual, and was rapidly enfeebling her, she had recourse to Dr. Porta, who found that she had been twenty days ill, and that she was affected with lumbar pains, some swelling and tenderness of the hypogastrium and symptomatic fever. He directed her to take a pill containing three grains of tannin every third hour; and she took only eight of them when the hemorrhage entirely ceased. *Case III.* A woman of irritable sanguine temperament, and thirty-eight years of age, had been affected for three weeks with menorrhagia, when Dr. Porta was called to visit her. He found that pressure on the hypogastrium excited pain there, shooting towards the loins, that the pulse was hurried, and that she was liable to sudden paroxysms of pyrexia. As there was not, however, any notable swelling in the hypogastrium, he ordered the tannin without any preliminary treatment, and the same quantity was given as in the last case. In the course of two days about two scruples were taken, upon which the hemorrhage was permanently checked. *Case IV.* A young woman of robust habit was attacked with profuse hemorrhage from the uterus, by which in the course of a few weeks she was reduced to a state of great exhaustion. Notwithstanding her state, and the large quantity of blood she had lost, the pulse was frequent and full, and the hypogastrium was tumid and tender. Dr. Porta immediately ordered her to cease taking wine and tonic drinks, which had been given her up to that time, and directed three grains of annin to be administered every third hour. Towards the close of the fourth day the hemorrhage ceased. The lumbar pains which usually accompany the disease continued a few days longer. *Ibid.*

Tartar Emetic as used by Laennec in Peripneumony.—"As soon as I recognise the existence of the pneumonia, if the patient is in a state to bear venesection, I direct from eight to sixteen ounces of blood to be taken from the arm. I very rarely repeat the bleeding, except in the case of patients affected with disease of the heart, or threatened with apoplexy, or some other internal congestion. More than once I have even effected very rapid cures of intense peripneumonies without bleeding at all; but, in common, I do not think it right to deprive myself of a means so powerful as venesection, except in cachectic or debilitated subjects. In this respect M. Rasori does the same. I regard blood-letting as a means of allaying for a time the violence of the inflammatory action, and giving time for the emetic tartar to act. Immediately after bleeding I give one grain of the tartar emetic, dissolved in two ounces and a half of cold weak infusion of orange leaf, sweetened with half an ounce of syrup of marsh-mellows or orange flowers: and this I repeat every second hour for six times: after which I leave the patient quiet for seven or eight hours, if the symptoms are not urgent, or if he experiences any inclination to sleep. But if the pneumonia has already made progress, or if the oppression is great, or the head affected, or if both lungs or one whole lung is attacked, I continue the medicine uninterruptedly, in the same dose and after the same intervals, until there is an amendment, not only in the symptoms, but indicated also by the stethoscopic signs. Sometimes even, particularly when most of the above mentioned unfavorable symptoms are combined, I increase the dose of the tartar emetic to a grain and a half, two grains, or even two grains and a half, without increasing the quantity of the vehicle. Many patients bear the medicine without being either vomited or purged. Others, and indeed the greater number, vomit twice or thrice, and have five or six stools the first day; on the following days they have only slight evacuations, and often indeed have none at all. When once tolerance of the medicine (to use the expression of Rasori) is established, it even very frequently happens that the patients are so much constipated as to require clysters to open the body. When the evacuations are continued to the second day, or when there is reason to fear on the first that the medicine will be borne with difficulty, I add to the six doses, to be taken in twenty-four hours, one or two ounces of the syrup of poppies. This combination is in opposition to the theoretical notions of Rasori and Tommasini, but has been proved to me by experience to be very useful. In general the effect of tartar emetic is never more rapid or more efficient than when it gives rise to no evacuation: sometimes, however, its salutary operation is accompanied by a general perspiration. Although copious purging and frequent vomiting are by no means desirable, on account of the debility and the hurtful irritation of the intestinal canal which they may occasion, I have obtained remarkable cures in cases in which such evacuations had been very copious. I have met with very few cases of pneumonia where the patient could not bear the emetic tartar; and the few I have met with occurred in my earliest trials; insomuch that this result now appears to me to be attributable rather to the inexperience and want of confidence of the physician, than to the practice. I now frequently find that a patient who bears only moderately six grains with the syrup of poppies, will bear nine perfectly well on the following day. At the end of twenty-four or forty-eight hours at most, frequently even after two or three hours, we perceive a marked improvement in all the symptoms. And sometimes even we find patients, who seemed doomed to certain death, out of all danger after the lapse of a few hours only, without having ever experienced any crisis, any evacuation, or indeed any other obvious change but the rapid and progressive amelioration of all the symptoms. In such cases the stethoscope at once accounts for the sudden improvement, by exhibiting to us all the signs of the resolution of the inflammation. These striking results may be obtained at any stage of the disease, even after a great portion of the lung has undergone the purulent infiltration. As soon as we have obtained some amelioration, although but slight, we may be assured that the continuation of the remedy will effect complete resolution of the disease, without any fresh relapse; and it is in regard to this point more particularly that the greatest practical difference between the emetic tartar and blood-letting consists. By the latter measure, we almost always obtain a diminution of the fever, of the oppression and the bloody expectoration, so as to leave both the patient and the attendants to believe that recovery is about to take place; after a few hours, however, the unfavorable symptoms return with fresh vigour; and the same scene is renewed, often five or six times, after as many successive venesections. On the other hand, I can state that I have never witnessed these renewed attacks under the use of the tartar emetic. In these cases we observe only, in the progress towards convalescence, occasional stoppages. And this is more particularly the case in respect of the stethoscopic signs: as we find that, between the period when the patient experiences a return of his appetite and strength, and fancies himself quite cured, and the period at which the stethoscope ceases to give any indication of pulmonary engorgement, more time frequently elapses than between the invasion of the disease and the beginning of the convalescence. It is necessary to observe, however, that this remark is still more frequently applicable to the disease when treated by blood-letting; and, moreover, that the patients subjected to the antimonial method never experience the long and excessive debility which too often accompanies the convalescence of those who had been treated by repeated venesections.

"The best way of appreciating any particular mode of treatment is by its results. I am sorry to say that I only began last year to keep an exact account of the results of mine by the tartar emetic; but I can affirm that I have no recollection of death from acute pneumonia in any case where this medicine had been taken long enough for its effects to be experienced. I have only witnessed a few fatal terminations where the case was a slight peripneumony complicated with severe pleurisy. (We shall find, when we come to treat of the latter disease, that, after the first stage, the emetic tartar has little effect in it.) I have also lost some patients who, besides the pneumonia, were affected with cancer, phthisis, disease of the heart, &c.; and these are the cases where I had an opportunity of observing the different degrees of resolution in this disease. Finally, I have lost some who were brought to the hospital moribund, and who sunk before they had taken more than two or three grains of the remedy. In the year 1824, at the clinic of the Faculty of Medicine, I treated by the tartar emetic twenty-eight cases of pneumonia, either simple or complicated with slight pleuritic effusion. Most of these cases were very severe, yet they were all cured, with the single exception of a cachectic old man of seventy, who took but little of the medicine, because he bore it badly. During the present year (1825) I have treated thirty-four cases in the same manner. Of these, five died; but of this number two women, one aged fifty-nine and the other sixty-nine, were brought to the hospital moribund, and sunk before they had taken more than two or three doses of the emetic tartar; a third died of disease of the heart when convalescent from the pneumonia; and a fourth fell a victim to chronic pleurisy, also in the period of resolution of a sub-acute peripnuemony. These two last cases will be detailed hereafter; the one at the end of the present chapter, the other in the section on Pleuro-pneumonia. The fifth case was that of a man, seventy-two years of age, who died of cerebral congestion on the tenth day of the disease. Of these fives cases, then, the two first cannot be adduced in either way as instances of the effect of this remedy; and the two next are proofs of its efficacy in pneumonia, rather than the contrary. The result, therefore, of the whole is, that of fifty-seven cases of pneumonia treated by the tartar emetic, only two individuals, both upwards of seventy, died of this disease conjoined with cerebral congestion; that is, a little less than one in twenty-eight."—*Lon. Med. Phys. Jour.*

Sir H. Halford on Tic Douloureux.—May I venture to throw out an opinion, founded on the observations with which my experience has furnished me, that the disease is connected with some preternatural growth of bone, or a deposition of bone in a part of the animal economy where it is not usually found in a sound and healthy condition of it, or with a diseased bone?

The following cases have occurred to me, and seem to give a degree of probability to this surmise; and I throw it out for the consideration of the profession, in order that a number of facts may be collected, from which a safe inference at length can be drawn.

A lady, forty years of age, suffered under the violent form of tic douloureux, at Brighton, notwithstanding the careful attention and skill of a very judicious physician there. On returning to town, it was observed that the rending spasms, by which the disease is marked, were frequently preceded by an uneasiness in one particular tooth, which exhibited, however, no signs of unsoundness; but the constancy of this symptom was enough to justify the extraction of the tooth in this instance, (though the failure of this expedient to afford relief in general does not encourage recourse to the operation,) and, on its being drawn, a large exostosis was observed at the root of the tooth, and the lady never suffered more than very slight attacks, and those very seldom, afterwards.

The D. of G. was attended by Dr. Baillie and myself, for six weeks, under this disease, in its most marked and painful form, without deriving benefit from our prescriptions. At length we thought it best to advise him to repair to the sea-coast, in hopes of renovating the shattered system by taking bark there. After he had sojourned a month by the sea-side, a portion of bone exfoliated from the antrum highmorianum, and the D. recovered immediately and has never suffered the disease since. The bone had been hurt, probably, by a fall from his horse, which the D. had met with some months before.

The late Earl of C. underwent martyrdom by this disease, and excited the warmest sympathy of his friends by the agonies he sustained for many years. He submitted to the operation for the division of several branches of the fifth pair of nerves repeatedly, by Sir Everard Home, and by Mr. Charles Bell, without obtaining more than mere temporary relief. At length he was seized by apoplexy, and lay insensible for some days, and in great peril from the attack, but finally recovered. After the apoplexy, the paroxysms of the tic douloureux became less frequent and less severe, and were administered so satisfactorily by an ingenious physician, who wrote his inaugural exercise on the disease. For the last year or two of his life, his lordship had ceased to suffer from the tic, and died at an advanced age, without any marked malady. His head was not examined after death, and therefore we are left to conjecture only what might have been the immediate cause of his former sufferings. Whilst I attended him, he underwent repeated exfoliations of the alveolar processes of the teeth, which I thought occasioned his torment; and, to account for the cessation of the complaint, I suppose that these efforts to throw off diseased portions of bone might have ceased, or that the apoplexy had disqualified the nerves for suffering so exquisitely; but there might have been besides, as some later instances have made probable, disease in the bones of the head.

The late Dr. P. fell a sacrifice to this dreadful disease, after sustaining its tortures for some years, with a constancy which attracted all our pity and esteem, and died at last under apoplexy. No assistance which the experience of any of us could afford him gave him relief, or controlled the violence of his attacks. On examining his head after death, there was found an unusual thickness of the os frontis, where it had been sawn through above the frontal sinuses, and at its juncture with the parietal bones. There was discovered also on the falciform process of the dura mater, at a little distance from the crista galli, a small osseous substance about three-eighths of an inch in length, rather less in breadth, and about a line in thickness. The vessels of the pia mater were turgid with blood, and about an ounce of fluid occupied the ventricles. I lamented that the frontal sinuses had not been examined; for I remember he replied to a question which I once put to him, as to his ever having experienced any suppuration within any bony cavity, that he had twice suffered suppuration in the frontal sinuses. Dr. P. had submitted, with great patience, to a division of several branches of the fifth pair of nerves, under the judicious operation of Sir A. Cooper, who, on my mentioning to him the notion I entertained of the cause of tic douloureux, was so obliging as to show me the skull of a person who had died of this disease in the country. The internal surface of the frontal bone is a perfect rock-work.—*Medical Gazette.*

MEDICAL JURISPRUDENCE.

Imputation of poisoning.—*Detection of a conspiracy, by the inconsistence of the evidence for the prosecution, with the chemical analysis and with the effects of poison on the system.*

Case i.—Samuel Whalley was indicted at the York spring assizes, in 1821, for maliciously administering poison to Martha King, a dress maker, with whom he cohabited, and who was pregnant by him. The indictment contained three charges:—a charge of administering poison for the purpose of killing the woman; another of administering it for the purpose of destroying the living child in her womb; and a third of administering it for the purpose of procuring abortion, the child not being quick.

The moral evidence against the prisoner was derived almost entirely from the testimony of the prosecutrix King, and that of another woman Merryweather, who lodged in the same house with her. Its purport was, that the prisoner had under promise of marriage, cohabited with King, who became with child in consequence; that the marriage was put off, after proclamation of banns, on the ground of its being inconvenient at the time to the prisoner;—that, on two occasions after this, and recently before she was poisoned, he tried to prevail on her to take drugs for the purpose of destroying the child, and maltreated her because she refused;—that she had a dream about purchasing poisoned tarts, and that a fortnight afterwards the prisoner brought her several tarts, which while he declined partaking of them himself, he urged her to eat, "because he should like young Samuel (the fœtus in utero,) to have one;"—that she did not take any that day, but ate some the following afternoon;—that after she had eaten them, and was taken ill, the prisoner paid her a visit, and in quitting her made a remark which implied he thought her dying, and knew she had taken something deleterious.

The prisoner on the other hand, while he admitted the cohabiting, the promise of marriage, and even that a day had been fixed for it, stated that it was broken off in consequence of his having caught her in a suspicious situation with another man;—that she frequently threatened his life on account of his refusing to make good his promise to marry her;—that he carried the tarts to her, because she asked for them on account of a curious dream she had about tarts;—and he proved, by two witnesses, that she had arsenic in her possession, although in her evidence she denied she ever had any, or knew what it was. The defence was therefore grounded on a charge of conspiracy on the part of King and Merryweather.

The medical evidence was to the following effect:

According to the deposition of King, corroborated in many points by that of Merryweather, she felt an "unpleasant coppery taste" while eating the first tart, and this was so much increased while she was eating a second, that she did not take the whole of it. Half an hour afterwards she became sick, felt a burning heat and pain in the stomach, was seized with trembling and feebleness of the limbs, and subsequently had some vomiting. Her fears being in consequence excited, she sent for Mrs. Merryweather, and along with her examined two tarts which remained, and they found a white powder hidden under the preserves. They both became alarmed, and Merryweather immediately set off in quest of a medical man. But it appeared that, notwithstanding her state of alarm, the messenger went to a gentleman who lived a mile off, who had never attended King before, and to whose house she did not know the way. Mr. Thackrah, surgeon at Leeds, who was the gentleman called, arrived at Mrs. King's house about six in the evening, two hours nearly after she had taken the tarts. He found her agitated, and complaining of the symptoms mentioned above; but "the pulse was not much accelerated, the tongue exhibited nothing particular; she did not complain of urgent thirst, or sense of heat in the mouth or throat; nor did she seem to have acute pain." As she told him she had not vomited, he immediately administered an emetic, and soon afterwards another, as the first did not operate. She then vomited. The matter discharged was preserved in a wash-hand basin, and taken home that evening by one of his pupils who had accompanied him; but Mr. Thackrah admitted that the prosecutrix might have introduced a small quantity of poison into the basin before she vomited.

He left her about seven, and sent his assistant to see her at ten. Meanwhile she had according to her own account, another attack of vomiting, the matter of which she preserved, and showed to Mr. Thackrah at his visit next day; but she did not speak of it that evening to the assistant. This stuff was not taken away for some days, as Mr. Thackrah did not happen to have any convenient vessel with him at his second visit. On this occasion he found her complaining of headache and pain in the bowels, and the tongue was furred; but she had no particular illness that was apparent, nor was there subsequently any of those effects which are usually caused by small doses of arsenic. After a few days' attendance, deeming her well, he discontinued his visits. She, as well as Merryweather, however, stated at the trial that she had been obliged to keep her bed several days, and that she had never been well afterwards.

The chemical analysis of the various suspected articles was conducted partly by Mr. Thaokrah, partly by Mr. Walker, a chemist of Leeds.

In the two tarts, which were delivered to Mr. Thackrah, at his request, on his first visit, they found under the preserves a white powder, which proved to be arsenic. Mr. Thackrah remarked that, when a portion of the powder, with a little of preserve adhering to it, was dissolved in distilled water, and alkalised with subcarbonate of potass, the sulphate of copper caused a green, and the nitrate of silver a yellow, precipitate; and Mr. Walker determined the quantity in each tart to be between four and five grains.

Mr. Walker likewise examined the matters of vomiting, and detected arsenic by the same test in both. The quantity in the first was exceedingly minute,—not above one grain dissolved in at least three pints of fluid. The second matters of vomiting contained a much larger quantity,—namely, between twelve and fifteen grains; and, from the observations Mr. Walker made, "he doubted very much whether the arsenic of this analysis had ever been in a human stomach."*

Such were the facts of this important case. The following are the conclusions which may be drawn from the medical evidence:—

In the first instance, Mr. Thackrah deposed on the trial that, although the illness of the prosecutrix was undoubtedly caused by something which had disordered her stomach, he did not think her situation corresponded with that of a person who had taken so much arsenic as was to be inferred from what was contained in the tarts analysed;—and that, if he had heard nothing about poison, he would not have supposed she had taken any. He admitted at the same time that he could not affirm positively, from the symptoms, that she had not taken a *minute* quantity of arsenic, as the symptoms of arsenical poisoning are subject to great variety.

In the second place, Mr. Walker deposed, in regard to the coppery taste said to have been felt by the prosecutrix while eating the tarts, that arsenic could not cause such a taste, because its taste "*is sweet*, not like copper; if mixed with sweet tart, it could not be perceived at all."

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* Mr. Walker having died since the trial, I have not been able to procure all the particulars of his experiments. The fact that arsenic has not been in the stomach may be ascertained by finding that the precipitates procured from the alleged matters of vomiting by the liquid tests, and more particularly by sulphuretted hydrogen, do not yield empyreuma, or exhale the odour of burning animal matter in the course of reduction.

Thirdly, according to the analysis of the powder in the tarts which were not eaten, the prosecutrix could not have taken above *ten* grains of arsenic in what she did eat. Now, even after repeated attacks of vomiting, the last matters discharged containing *at least twelve grains;* which clearly showed that arsenic had been mixed with the stuff after it was vomited,—if, indeed, there was vomiting at all. The same inference is deducible with still greater certainty from the comparison of the quantity contained in the last matters of vomiting with that contained in what was discharged a short time before when vomiting was encouraged by emetics and the free use of diluents; the latter quantity not being above *one* grain. The prosecutrix indeed stated that the matter from which the larger quantity was procured, had been discharged into the same basin as that from which the former matters of vomiting had been taken, and that a considerable white sediment had been left in the basin when Mr. Thackrah transferred the contents into another vessel. But Mr. Thackrah was sure that no perceptible sediment was left.

Fourthly, Mr. Thackrah deposed, that if so great a quantity had been taken as to render it possible for twelve or fifteen grains to be vomited two or three hours afterwards, it would have occasioned the most violent symptoms, and probably death.

It is impossible to conceive more pointed evidence. The medical investigations were alone amply sufficient to decide the nature of the case.

The prisoner, as will be readily anticipated, was found Not guilty. It may be satisfactory to add, that the prosecutrix King and the witness Merryweather were immediately committed on a charge of conspiracy. But the judge, considering the unfortunate state into which one of them had been brought by Whalley's means, and that they had signed a paper to the effect that all the charges made against him were false, and the result of a conspiracy against him, acceded to Whalley's request to allow them to be discharged.—*London Med. and Phys. Journ.*

Period of Parturition in Women.—Dr. Samuel Merriman has laid before the Medico-Chirurgical Society of London, the result of some observations made by him on this subject. They are founded on the following data. "When I have been requested to calculate the time at which the accession of labour might be expected, I have been very exact in ascertaining the last day on which any appearance of the catamenia was distinguishable, and have reckoned forty weeks from this day, assuming that the *two hundred and eightieth* was to be considered as the legitimate day of parturition. The subjoined table shows how often this day was deviated from in the cases of 114 mature children."

In the 37th week, (255, 256, 259 days respectively,) - - - -	3
38th week, (from 262 to 266 days,) - - - - -	13
39th week, (from 267 to 273 days,) - - - - -	14

In the 40th week, (from 274 to 280 days,)	38
41st week, (from 281 to 287 days,)	22
42d week, (from 288 to 293 days,)	15
43d week, (from 295 to 301 days,)	10
44th week, (303, 305 and to 306 days,)	4
	114

These are all calculated from, but do not include, the day on which the catamenia were last distinguishable. Dr. Merriman deems it safe to infer, from this table, that conception is effected soon after the catamenial period has intermitted more commonly than immediately before the recurrence of that discharge. He adds some cases in which pregnancy was apparently protracted beyond the longest of the above periods.

Medico-Chirurg. Transactions.

TOXICOLOGY.

Case of Death caused by the external application of Opium. (*Journal de Chimie Medicale, Avril* 1827.)—The application of opium in considerable quantity to the skin when deprived of its cuticle, is a practice by no means free from danger; and when it is resorted to for allaying irritation, it is necessary to watch the patient carefully. We are acquainted with an instance in which deep coma was induced by the application of an opium poultice to the scrotum previously deprived of the cuticle by a blister, and which would in all likelihood have proved fatal, had not one of the patient's friends called accidentally to see him and discovered the cause of his state of sopor. The following is an example of death originating in the same source, although the skin was not deprived of its cuticle. A soldier, thirty-two years of age, was attacked with phlegmonous erysipelas of the fore and outer part of the right leg, on account of which a linseed poultice, moistened with *fifteen drops* of laudanum, was ordered to be applied to the limb. Next morning he was found in a state of deep sopor, with the face pale, the eyelids tremulous and half open, the pupils contracted, the lips distorted, the muscles of the face affected with spasm, and those of the limbs with convulsions. The surgeon having remarked a strong odour of opium, as well as a yellow coloration of the bandage which enveloped the limb, he had it removed, and found not only the bandage but all the compresses soaked with laudanum, which was flowing copiously from the poultice. The attendant whose duty it was to make up the poultice, had left it in charge to an hospital servant, without telling him what quantity of laudanum was to be used; and the latter had ignorantly used towards an ounce. Antispasmodics, emetics, and sinapisms, were resorted to, but in vain. The convulsions increased, the pulse became more and more feeble, and the patient died. On inspection some red points were seen on the arachnoid, a strong opiate odour was exhaled from all parts, and the heart, stomach, and brain were in their healthy state. In the blood-vessels no trace could be found of the poison which had been absorbed.—*Edin. Med. Surg. Journ.*

Cases of Poisoning with Belladonna. (Journal de Chimie Medicale, Decembre 1827.)—Two children ate a considerable quantity of the berries of the Atropa Belladonna. The elder of the two on going to school immediately afterwards, burst out into immoderate and incontrollable fits of laughter, and constantly caught at objects which he conceived were before him. Subsequently was added to these symptoms an incessant, incoherent babble, with continual agitation of the body, fixed eyes, dilated and insensible pupils. This was above three hours after the berries had been taken. The physician who then saw him for the first time administered an emetic, which brought away a large quantity of reddish matter containing fragments of the berries. After this tartar emetic was given, though not without great difficulty, as the lower jaw was spasmodically contracted. Notwithstanding repeated vomiting, the symptoms went on increasing, the limbs were in constant agitation, the breathing high and croupy, the face red, and the incoherence constant. Purgatives were then administered, and afterwards vinegar. Four hours after the poison was swallowed the breathing had become stertorous, the skin cold, the face bloated, the pulse imperceptible. The child was then immersed in the warm bath and bled from the jugular vein to the extent of six ounces, with marked advantage. The muscular agitation was now broken by intermissions of profound sleep, in which, however, the patient was not permitted to indulge for twelve hours more. Next morning (nineteen hours) calomel was administered and caused several evacuations. In the afternoon the pulse again became almost imperceptible, the skin cold and pallid; and the warm-bath was therefore repeated and followed up by sinapisms and assafœtida injections, in consequence of which the pulse and temperature were restored, Four hours afterwards these symptoms recurred and were again successfully combated by the same means. An hour and a half after that, or 29½ hours after the berries were eat, the whole symptoms were much abated, and the child was sensible. From this time the amendment was rapid. But it was not till the third day that he could distinguish objects. Till then he was entirely deprived of sight: even a lighted candle held close to the eyes, did not seem to make the slightest impression on the retina. For some time afterwards he was in indifferent health, and had occasional fits of slight convulsions; but he ultimately got quite well.—The circumstances of the other case were precisely the same in every respect.—*Ib.*

CHEMISTRY.

Solanic acid.—Some time since M. Desfosses announced the discovery of a distinct alkaline principle in the berries of the *Solanum nigrum, L.* to which he gave the name of *Solanine.* It appears that M. Peschier has ascertained that this principle is combined with a peculiar acid, which he has denominated Solanic acid. If this should be confirmed by other chemists, it is to be hoped that some other name may be adopted either or the acid or alkali.—(*Edit. N. Y. M. & P. J.*)

According to M. Peschier this acid may be separated by means of Ammonia, which precipitates the vegeto-alkali. It has a crystalline form, is soluble in water, and produces crystallizable combinations with potash and soda; the first in acicular crystals, the second in quadrilateral prisms, with a sweet taste.—Solanic acid is without action upon the salts of lime, baryta, magnesia, iron, zinc, and copper; and only a feeble action upon those of lead, silver and mercury. This acid has been found also in other plants of the same genus, and may, therefore, be regarded as peculiar to the family.—*Bull. Univ.* c. xii. p. 287.

Purification of alcohol.—A prize was offered by the Royal Academy of Brussels to the person who should prove upon what the differences between alcohol, extracted from various substances, as fruits, grain, roots, sugar, &c. depended. This was obtained by Mr. Hensmans, who was led, by numerous experiments, to conclude that the alcohol was always identical, but that the difficulty, more or less great, always found in rectifying it, as well also as the difference in taste, depended upon the presence of a fatty matter, and a little acetic ether. The fatty matter, when alone, may be separated by several distillations, but the acetic ether is not removed in this way. It is better, in every case, for the removal of both, to add a little caustic potash, or soda to the alcohol, to be rectified. Carbonated alkali does not act with sufficient energy.—*Bull. Univ. E.* 8. 289.

On the caseous oxide and caseic acid of Proust.—The results obtained by Proust, relative to the substances produced by the fermentation of cheese, have been examined and described by M. Henri Bracannot. The substance which Proust distinguished as caseous oxide, he shows to have no claim to such a title, and proposes to call it *Aposepedine,* as being produced by putrefaction. It also appears to be produced in certain morbid diseases.

The properties which Proust has assigned to *caseic acid,* belong, according to M. Bracannot, to various contaminating substances, none of which have any title to be considered as a particular acid. The substances present are free acetic acid, aposepedine, animal matter soluble in water and insoluble in alcohol (ozmazome) fluid oil; a brown resin, acetate and muriate of potash, and traces of acetate of ammonia.

On examining the fatty matter of cheese, Bracannot found it to consist of margarate of lime with margaric and oleic acids; the butter having undergone the same kind of change during the fermentation of the cheese, as that produced when it is saponified by the action of alkalies or other bodies.—*Annales de Chimie,* 36, 159.

On testing the presence of Ammonia in a substance.—Having occasion to ascertain whether the action of a salifiable base upon a body containing azote, was simply that of evolving ammonia, previously existing, or that of forming ammonia by the combination, M. Plessin was induced to search for a base which would effect the former object, but not the latter. Potash, lime, magnesia, and many other bodies do both, but the hydrated oxide of lead answered the purpose very well. It gives no indication of ammonia when put into contact with azotated substances not containing that alkali; even ureais not affected by it; but being put in contact with an ammoniacal salt, ammonia was instantly evolved, and rendered evident by the visible fumes which arose upon the approximation of a little acetic acid.—*Annales de Chimie* 36, 177.

OBSTETRICS.

Extra-uterine pregnancy, terminating in the discharge of the fœtus piecemeal by the anus.—(*Journal des Progres de Sciences T. premier*, 1827.)—A middle-aged woman, of a strong constitution, and well constructed pelvis, and who had previously had three children without any particular accident occurring, became pregnant for the fourth time towards the close of October 1825. Nothing unusual occurred till the thirty-third week, when she began to complain of violent pains in the lower belly, confined chiefly to the left and anterior part of the pelvis near the groin, and quite different from the pains she had experienced in her former pregnancies. As these pains went on increasing, an accoucheur was consulted, who found the neck of the uterus situated high up, hard, and half an inch in length. About a fortnight afterwards she was persuaded to consult a *sorceress*, who lived three leagues and a half off, and who gave her a violent cathartic. Its operation was so violent that she was for some time in a dangerous state; but she recovered, and then it appeared that the pains had ceased, as well as the movement of the fœtus, and that the milk, which had begun to flow a short time before she took the cathartic, had receded. She became eventually so well as to be able to work; but she continued to purge frequently, and the discharges were fœtid and bloody. About three weeks and a half after she took the cathartic, she discharged a mass of flesh in a state of putrefaction and adhering to the bones of the leg of a fœtus; and its escape was followed by a copious putrid evacuation. For fifteen days after she discharged successively portions of bones, along with fluid fœtid evacuations; and in the course of that time was reduced to a very low state by hectic fever. At last there appeared in the left side of the abdomen a tumour, which soon suppurated, and bursting, discharged a large quantity of fœtid pus. The stools then became less frequent and she gradually recovered, so that in September 1826, she was in excellent health, though feeble. The neck of the uterus was in its usual condition, and the abdomen flaccid and not tender to the touch.—*Edin. Med. and Surg. Jour.*

Case of Double Uterus, with Double Impregnation. (*Rust's Magazine, Vol.* 20, 568.)—An extraordinary case of this description has been related by Dr. Geiss, a physician of Traffurth near Erfurt. The woman had been in labour for two days, when he was requested to attend her. He found her a stout, healthy female, of middle stature. The labour-pains were confined to the right side. On the right side, the womb reached as high as the thorax; on the left it did not extend above the navel, and inclined forwards and laterally. The external parts and os uteri were properly constructed, and the shoulder of the child could be felt behind the membranes. The operation of turning was performed, and a healthy female infant delivered, upon which the right side of the abdomen sunk in while the left continued prominent. In an hour the labour-pains recurred, and on examining the state of the parts, Dr. Geiss found, that after passing the os uteri, the finger came in contact with a membrane distended by fluid, and protruding through an annular opening towards the left side, while the navel string of the child already delivered, extended upwards into a cavity like the uterus in ordinary circumstances. On further examination, he found the belly of a second child presenting at the accessory orifice, and therefore performed the operation of turning, and brought into the world a stout still-born male child, which was soon recuscitated. As no placenta followed for some time, he proceeded to assist the separation of them, and had then an opportunity of completely satisfying himself, that his patient had a double uterus. The right placenta came away first, and the right womb contracted vigorously; the left placenta followed, but the uterus of that side contracted slowly, and the woman therefore lost a good deal of blood. Two months afterwards the mother and both children were in good health. Two years before, she had brought forth a single child, and the labour was tedious, and required manual aid to accomplish.—*Ibid.*

MISCELLANEOUS.

Rate of Sickness. From returns made by upwards of seventy Friendly Societies, situated in sixteen different counties in Scotland, embracing periods of 5, 10, 20, 30, 40, and even 50 years, and comprising upwards of 100,000 members, the following schedule has been deduced:

Average Sickness for every Individual in each year.

Age.	Weeks.	Days.	Hours.	Proportion of sick members.
Under 20	0	2	16	1 in 136.95
20—30	0	4	3	1 in 87.89
30—40	0	4	19	1 in 75.74
40—50	1	0	4	1 in 50.61
50—60	1	6	3	1 in 27.65
60—70	5	4	10	1 in 9.23
Above 70	16	3	19	1 in 3.14

This table was prepared by a committee of the Highland Society of Scotland, to whom the returns were made. It will be observed that the proportion of sickness is much smaller than that in the British army, as heretofore given. The reasons of this are very manifest.

Edinburgh New Philosophical Journal.

Quackery.—In these days of quackery and puffing, the following anecdotes may afford some amusement, and at least show that the empirics of the present day are genuine descendants of the old stock :

Dr. Rock and Dr. Franks were two famous quacks in London about 1759 and 1760. Dr. Frank's handbill contained this admonition: "Be not *Rocked* into eternity by that vain and impudent pretender, Dumpling Dick, who still lives at the gate of an inn, where he was once porter." Dr. Rock's bill contains this sarcasm: "If you would avoid destruction, avoid the Old Bailey, for there lives an old soldier, discharged by the *beat of drum*, who has killed his thousands, but *not in battle;* his pills are more fatal than were his *bullets.*"

A contemporary of Rock lecturing once from his chariot, concerning a *Solar Pill*, said, "That it was the property of this inestimable and divine pill to stretch the line of existence to the longest possible extent, to counteract the operation of time upon the external form, to cheer, comfort, strengthen and renovate the internal system, to irradiate and gild the gloom of age, to diffuse a gleam of sunshine, even in the *hour of death.*" "I must stop here," said the learned doctor.

Rock one day lecturing on the efficacy of his pills for a certain disease, observed Hogarth and Hayman in the crowd, and probably fearing their satiric pencils, said, that "although professional honour prevented him from stating the cases he had cured, yet there were two gentlemen, whom he had no doubt would testify to the truth of what he advanced respecting the pills." They instantly made their way through the crowd, not however without some laughter at them.—*European Magazine.*

The Plague.—"I do not agree with Volney, on the subject of the plague, which, in Egypt, I have no doubt is indigenous. It originates in the stagnant waters left by the Nile, and all stagnant waters in hot climates produce disorders which have more or less resemblance to it. Is not this fact sufficient to prove that it rises in Egypt, *viz.* that when the inundation is great, the plague ensues; when it is small, the plague fails? Without intercourse with Egypt, they have no plague in Constantinople. Its progress is from the South."—*Otter's Life and Remains of Rev. E. D. Clarke.* Amer. edition, p. 335.

Method of recognising the stains caused by blood on steel instruments.—[*Journal des Progres des Sciences*, t. iv. 1827.] Professor Orfila has recently made some experiments on this subject with the view of illustrating certain questions in Medical Jurisprudence,—in which many doubts are entertained whether stains on steel instruments are caused by blood, by acid juices, or by rust; and the following are the criterions which he proposes. 1. When the instrument is heated to 80 or 90° F. the stain becomes brighter if it is caused by blood, but is not altered if it is caused by rust or lemon juice. 2. A drop of hydrochloric does not alter a blood-stain, but dissolves rust or acid stains. 3. The blood-stain steeped in water parts with its colouring matter to that fluid, and the red colour is retained on filtration, while stains caused by rusting or by vegetable acids either do not tinge water at all, or, if they cause a reddish-brown muddiness, it is removed by filtration. 4. The colouring matter derived from the blood stain may likewise be recognised unequivocally by its chemical properties, and in particular by the effect of chlorine: A minute quantity of chlorine turns it green, a larger quantity decolorizes it altogether, and an infusion of galls added to the decolorized solution causes a dark-red precipitate, which is the colouring matter in union probably with tannin. 5. Strong nitric acid destroys the colour of the stain caused by blood; the diluted acid dissolves it, forming a red solution, which precipitates red with infusion of galls.

UNIVERSITY REGISTER.

Historical account of the Medical Department of the University of New-York.

[Continued from p. 159.]

3. In the Annual Reports for 1793, 1794, 1795, and 1796, no mention is made of the number of students attending the medical lectures, although the gross number attending both departments is sometimes given. Subsequently the following are stated:

In 1796–7,	(about) 30 students.
1797–8,	29
1798–9,	22
1799–1800,	19
1800–1,	35
1801–2,	50
1802–3,	40
1803–4,	35
1804–5,	48

1805–6,	60
1806–7,	55
1807–8,	43
1808–9,	50*

The graduates of this school, according to the catalogue already referred to, were the following. We have added the subject of their inaugural dissertations whenever we were able to ascertain them.

1793.

Samuel Borrowe, *Cynanche Trachealis.*
John B Hicks.
Jotham Post, *Against the Existence of Muscular fibres in the vessels.*
Willet Taylor, Jun. *Scarlatina Anginosa.*
Joseph Young.

1794.

David G. Abeel, *Dysentery.*
Peter Irving, *Influenza.*
Henry Mead, *Cholera Morbus.*

1795.

Peter Anderson, *Diarrhœa Infantum.*
Williom M. Ross, *Carbon.*
Timothy F. Wetmore, *Puerperal Fever.*

1796.

Alexander Anderson, *Chronic Mania.*
Winthrop Saltonstall, *Chemical and Medical History of Azote.*

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* In a pamphlet, entitled, "*Observations on the Establishment of the College of Physicians and Surgeons in the City of New-York,*" *&c. &c. New-York,* 1811, the following list is given as taken from the records of Columbia College. We only quote the years corresponding.

In 1796–7,	29
1797–8,	29
1798–9,	34
1799-1800,	21
1800–1,	34
1801–2,	51
1802–3,	40
1803–4,	34
1804–5,	47
1805–6,	65
1806–7,	55
1807–8,	55
1808–9,	50
Total,	545
Total reported by the Regents,	516

1797.

William Bay, *Dysentery.*
Alexander Hosack, *Yellow Fever.*

1798.

Adolph C. Lent, *The Acid quality of Pestilential Vapours.*

1802.

Joseph Bayley, *Yellow Fever.*
Nicholas Quackenbos, *Dysentery.*
James V. Brower.
Richard L. Walker, *The perspirable fluids of the human body.*

1803.

Isaac Foster, *Dysentery.*
James R. Manly, *Yellow Fever.*
Samuel Scofield, *Vaccina.*

1804.

William Barrow, *Lumbar Abscess.*
Ezekiel Ostrander, *Puerperal Fever.*
Daniel D. Waters, *Inflammation.*

1805.

Thomas Cock, *Respiration.*
Benjamin Kissam, *Fistulo in Ano.*

1806.

Valentine Mott, *Statice Limonium.*
William James Macneven, M.D. Vienna, *ad eundum.*

1807.

Allire R. Delile, *Pulmonary Consumption.*
William L. Lytton, *Dropsy.*

1810.

Robert Morrell, *Animal Heat.*
Samuel W. Moore, *White Oxide of Bismuth.*
Henry U. Onderdonk, *Stone in the Bladder.*

In 1806, the law establishing county medical societies, and also a state medical society was passed. The details of this act are given in an early volume of this Journal. The state society was organized in February 1807.

On the 3d of March 1807, the following entry appears on the minutes of the Regents:

"The memorial of the medical society of the county of New-York, praying an act of incorporation as a College of Physicians and Surgeons under the patronage of the Regents, was received and read, and referred to Dr. Linn, Mr. Jenkins, Mr. De Witt, Judge Spencer, and Mr. Rutgers."

Accompanying this was a communication to the Regents in the following words, from Dr. Nicholas Romayne.

"That your memorialist is president of the medical society of the county of New-York, incorporated under the laws of the state, and that he is also appointed by said society their delegate and commissioner to the medical society of the state, and is otherwise charged by the resolutions of said society to pay due attention to the views of said society, so far as they respect the promotion of medical knowledge and the cultivation of the sciences relating to medicine. That the said society is, with the other medical societies of the state, directed by law to examine students of medicine, and to license such as may be qualified to practise as physicians and surgeons, or both. That the said society being impressed with the importance to the public that a system of medical education should be instituted under their inspection, have directed your memorialist to present to your honourable body in their behalf, their memorial respecting the same, to the end that by the aid of your honourable board the members of said society may be incorporated by the honourable the legislature, into a College of Physicians and Surgeons, under the direction, inspection, and patronage of the Regents of the University, and which memorial your memorialist has the honour to present herewith.

"That your memorialist is informed that the honourable the legislature of the state, have already invested your honourable board with all the powers to institute a college of physicians and surgeons, as is desired by the medical society of the county of New-York, and your memorialist therefore prays, in behalf of said society, and of each and every member thereof, that all the members of the said society, may be incorporated into a college of physicians and surgeons by the Regents, under their direction and patronage, with all such rights and privileges, as in the wisdom of said Regents may conduce to the promotion of medical knowledge and the public good.

"Your memorialist humbly begs leave to state to your honourable board, that under the ordinary circumstances of exercising the medical profession, it is difficult for any physician or surgeon in full practice, to be a medical teacher, as the branches of anatomy, chemistry, botany, and other branches of medicine require much preparation, study, and time. Your memorialist also begs leave to state, that every physician and surgeon in the ordinary practice of his profession, may be rendered more useful to the community by occasionally visiting a school of medical information, when combining an increase of knowledge, with the inspection of the duties of the teachers. Your memorialist therefore hopes, that the judicious arrangement of the honourable the legislature, investing the Regents of the University with the powers of appointing medical professors and the members of the college, of inspectors of the performance of their duties, a school of medicine may be established in the city of New-York, not only honourable to the state, but of national importance, and which may contribute to diffuse among mankind the blessings of science."

At the same time, a remonstrance against the proposed incorporation, signed by forty-nine members of the medical society of the county of New-York, was presented. It is as follows:

That your memorialists "view with extreme concern, a petition now presented, or about to be presented, to your honourable body from the society aforesaid, soliciting an act of incorporation as a college of physicians; a measure which they conceive to be not only altogether useless and unnecessary, but in every respect incompatible with the interest of the existing medical institutions of this state. They forbear to enter into a particular detail of the manner in which this petition passed their body, but they conceive it to be their bounden duty explicitly to declare, that although that petition appears as their official act, yet, that it cannot in justice be considered as the free interpretation of the wishes of the society, inasmuch as the said society was specially convened upon a subject totally irrelevant to the object of their present petition—advantage was taken of the small number of members collected, every necessary document (by previous arrangement) was prepared, and the object of the petition carefully concealed from a great portion of the members before they met. It was hastily passed through the society, without sufficient deliberation, contrary to the established usages of all incorporations, and is now made to appear before you, as their act, after mature consideration.

"They in an especial manner, remonstrate against the impropriety of unnecessarily creating more colleges, because a medical college, as part of the general establishment of Columbia College, has existed in this city for many years, where all the branches of medicine are faithfully and diligently taught by public professors. Your memorialists are informed that an understanding exists between the Regents of the University and the Trustees of Columbia College, that no additional medical school shall, at any time, be sanctioned by the Regents, while the duties annexed to the professorates of medicine in Columbia College are fulfilled.

"Your memorialists beg leave to remark, that this attempt to convert a county society into a college of physicians, would directly clash with the interests of the other county societies, and with the duties of the medical society of the state, and at all events, an attempt of this kind to change its name and character, at a moment when it is scarcely organized, would lead to endless mischief and confusion, while no possible good could arise out of it. They further remark, that this society does at present possess, in their opinion, every necessary power to license persons in the practice of physic and surgery, without interfering with the medical establishments of colleges and universities.

"Influenced by these considerations, which your memorialists deem all important, they confidently hope that the legislature of the state and the Regents of the University will see the evident impropriety (under existing circumstances) of creating a college of physicians and surgeons."

On the 10th of March 1807, the committee to whom the above memorial and remonstrance had been referred, reported "that they had met together and maturely considered, as well the application for the instituting by the Regents of the University a college of physicians and surgeons in the city of New-York, as the remonstrance against the same, and they are unanimously of the opinion that by granting the prayer of the memorialists, medical science will be promoted; they therefore recommend, that a college of physicians and surgeons be established in the city of New-York, pursuant to the power vested in the Regents of the University, by the statute of the 24th of March 1791.

"Thereupon,

"Resolved, That the said report be accepted, and that the secretary prepare an instrument in writing for incorporating the said college by the name and description of '*the College of Physicians and Surgeons in the City of New-York.*'"

On the 12th of March, a draft of a charter was presented and agreed to, It is as follows:

"Whereas the Medical Society of the county of New-York have presented unto us their memorial, under the seal of the said society, testified by Archibald Bruce, secretary; stating that their efforts to contribute to the diffusion of science, and the improvement of the medical profession, would be more successful, if they were directed under the patronage of the Regents of the University of the state, and were incorporated as a College of Physicians and Surgeons, and praying us to favour the views of the said society, so far as they are connected with the public good, and with which the improvement of the medical profession is intimately connected, and that the said society may be incorporated as a college of physicians and surgeons, under our patronage.

"And whereas Nicholas Romayne, president of the said medical society of the said county of New-York, has also presented unto us his memorial in writing, stating that the said medical society is directed by law to examine students of medicine, and to grant licenses to such as are properly qualified to practise physic or surgery, or both;—that the said society are impressed with the importance to the public, that a system of medical education should be instituted under their inspection, and praying us, in behalf of the said medical society of the county of New-York, and of each and every member thereof, that all the members of the medical society of the county of New-York might be incorporated by us into a college of physicians and surgeons, under our direction and patronage, with all such rights and privileges as might conduce to the promotion of medical knowledge and the public good: And we having taken the said memorials into our consideration, and being satisfied that a college of physicians and surgeons, established in the city of New-York, for the sole purpose of promoting medical science, may be of public importance in diffusing the knowledge of the healing art:

"Be it therefore ordained by us, by virtue of the act entitled 'An act to enable the Regents of the University to establish a college of physicians and surgeons within this state,' passed the 24th day of March, 1791, and we do, by these presents, ordain, grant, and declare, That a *College of Physicians and Surgeons, for the promotion of medical science, and diffusing the knowledge of the healing art*, shall be, and is hereby established in the city of New-York, in this state; and that Sir James Jay, James G. Graham, Alexander Sheldon, Samuel Latham Mitchill, William Livingston, Isaac Sergeant, Peter C. Adams, John Ely, Hugh Williamson, William M'Clelland, William Wheeler, Morris Willard, John Stearns, Philip Smith, Westel Willoughby, Caleb Sampson, Dunforth Shunway, Hugh Henderson, Gurdon Huntington, James Moore, John H. Frisbie, Barnabas Smith, Reuben Hart, Jesse Shepherd, Thomas B. Whitmarsh, David R. Arnell, Lyman Cook, John M. Mann, James Smith, Samuel Bard, Samuel Stringer, Hunloke Woodruff, Joseph White, Ebenezer Sage, Richard Udall, John Smith, Charles D. Cooper, Elias Willard, Jacob Outwater, Benjamin De Witt, Abraham Cornelison, David Hasbrouck, Charles Mitchill, Felix Pascalis, Samuel Torbert, Joshua E. R. Birch, John Riddel, George Anthon, John I. Coventry, Gardiner Jones, Philip Turner, Lewis Faugeres, Samuel Nesbit, John Onderdonk, William Moore, Nicholas Romayne, James Tillary, Archibald Bruce, Valentine Seaman, David Hosack, John R. B. Rogers, Wright Post, Edward Miller, William Hamersley, James S. Stringham, John H. Douglass, George W. Chapman, William James M'Nevin, John D. Jaques, Malachi Foot, Andrew Morton, John D. Gillespie, Alexander Hosack, Philip D. Kettletas, John Clark, Charles Buxton, Michael Degray, Daniel B. Cornelius, Joel Hart, Abraham Brower, John Wilson, Eloy Berger, Richard S. Kissam, Andrew Hunt, Benjamin Prince, Beekman Van Beuren, John Hicks, Joseph Bloodgood, Matthew Wendell, Samuel Bradhurst, John Stone, Baron A. De Carendeffez, George D. Clussman, Samuel Osborne, Benjamin Low, Joshua Secor, Benjamin Rockwell, Shadrack Ricketson, George C. Quackenbos, Robert Thorn, Abraham Losier, and all others who are now members of the medical society of the county of New-York, and all physicians and surgeons now resident in the county of New-York, and authorized by law to practise in their several professions, shall be the present trustees or members of the said college; and that the said trustees or members and their successors, shall be a body corporate and politic in fact, and in name, by the name of '*The College of Physicians and Surgeons in the City of New-York*,' and shall have perpetual succession, and by that name shall be in law capable to sue and be sued, to plead and be impleaded, to answer and be answered unto, to defend and be defended in all courts and places, and in all matters and causes whatsoever, and to purchase, take, hold, enjoy, and have, lands, messuages, tenements, hereditaments, and real estate, in fee simple, or for term of years, or lives, or in any other manner whatsoever; and also goods, chattels, books, monies, and all other things, of what nature soever; *Provided always*, that such estate, as well real as personal, which the said college is hereby authorized to hold, shall not exceed the sum of one hundred and fifty thousand dollars, current money of this state; and that the trustees or members of said college shall and may have a common seal, and may alter and renew the same at their pleasure.

"And it is hereby further ordained, granted, and declared, That the trustees or members of the college of physicians and surgeons hereby established, shall and may meet together on the first Tuesday in May next, at twelve o'clock of that day, in the City-hall of the city of New-York, or at such other hour and place as may be directed by the Chancellor of the University, and shall then elect by ballot, a president, vice-president, register, treasurer, and thirteen censors, who shall hold their respective offices for one year, and until others shall be chosen in their places; and the first Tuesday in May shall be for ever after the day for the anniversary meeting of said college of physicians and surgeons, and on which day the president and other offices before enumerated shall be elected as aforesaid; and their quarterly meetings shall be on the first Tuesday in August, November, and February in every year; and that on the days of their anniversary meeting, and at their quarterly meetings, but at no other time, they the said trustees or members, may enact such by-laws, rules, and regulations, relative to the affairs, concerns, and property of said college, and relative to the duties of their president, vice-president, register, treasurer, censors, and other members, as they or a majority of the members of such annual or quarterly meetings may think fit and proper: *Provided* such by-laws, rules, and regulations be not contrary to, or inconsistent with the constitution and laws of this state, or the United States, or the ordinances made by us or our successors, Regents of the University of this state. And the register of the said college shall provide a book, in which he shall make an entry of all the resolutions and proceedings which may be had from time to time, and also the annual reports relative to the state of the treasury, and all such other things as a majority of the members of the college shall think proper, to which any member of the college may at any time have recourse; and the same, together with all books, papers, and records, which may be in the hands of the register, and be the property of the college, shall be delivered to his successor in office. And the treasurer of the said college shall receive and be accountable for all monies which shall come into his hands, and shall pay the same in such manner as may be directed by a majority of the members of said college convened at the anniversary or quarterly meetings, and by a warrant for that purpose, signed by the president or vice-president.

" And it is hereby further ordained and declared, That in case it should at any time happen that an election of the said officers should not be made on the day when, pursuant to this ordinance, it ought to have been done, the said corporation shall not for that cause be deemed to be dissolved, but it shall be lawful on any other day within three months thereafter to hold and make an election for the said officers, in such manner as shall have been regulated by the by-laws of the said corporation.

" And it is hereby further ordained, granted, and declared by us, That the said college of physicians and surgeons shall, as far as they are able, at all times, provide suitable apartments for all such professors as shall hereafter be nominated and appointed by us in and for said college, and which professors shall have the style and title of '*Professors of the University of the State of New-York for the College of Physicians and Sur-*

geons;" and that all the members of said college shall be privileged, from time to time, and all times, to attend, inspect, and notice all lectures, or other mode of teaching by the professors in said college appointed by us; and that, in case of death or resignation of any professor, or other vacancy in said college, a majority of the trustees or members of said college, at any of their meetings, may appoint lecturers in any branch of medicine, or of the sciences connected therewith, until such time as our pleasure be known respecting the same, or professors be appointed by us; and that it shall and may be lawful, at all times, for them the said trustees or members to appoint lecturers in said college, in any branch of science, for themselves, and for their own instruction.

" And it is further ordained, granted, and declared, That the president, vice-president, censors, and all others, the trustees or members of said college, shall carry and put into full effect, all our ordinances respecting the said college, as well with respect to education as all other matters and things, and shall pay due attention towards establishing and preserving for the said college an anatomical museum and chemical elaboratory and botanic garden, and shall make an annual report to us in writing, or to the Chancellor of the University, in the month of January in every year, respecting the funds and property of the said college, and all matters and things relative to said college, and the students and professors thereof.

" And it is further ordained, granted, and declared, That twenty-one trustees or members of the said college may form a board to do business at any of the anniversary, quarterly, or extraordinary meetings; and that the president, or in his absence, the vice-president of said college, shall appoint and direct a special or extraordinary meeting to be called of the trustees or members of said college, at any time or place he may think proper, provided application be made to him in writing for that purpose, signed by thirteen trustees or members, and the said meeting be previously advertised for six days in two of the newspapers printed in the city of New-York; and that at all the meetings of the college, in the absence of the president, or vice-president, the senior censor on the list of the college then present shall preside; and that the trustees or members of said college may, at any of their anniversary, quarterly, or extraordinary meetings, adjourn from day to day.

" And it is further ordained, granted, and declared, That the president, vice-president, trustees, or members of said college may, at any time, and at all times, recommend to us any person residing in the county of New-York, and lawfully authorized to practise physic and surgery, or any physician or surgeon, or person eminent for learning and talents, to be a trustee or member of said college of physicians and surgeons; and any physician and surgeon resident for two years in the county of New-York, being of good moral character, and authorized by law to practise in his profession, may apply to us to be nominated and appointed a trustee or member of said college; and that the said college may direct that the president of the said college grant appropriate diplomas, under the hand of the president and seal of said college, testified by the register, certifying the name of every such trustee or member of the college.

"And be it further ordained and declared, That, reserving to ourselves and our successors, Regents of the University of this state, all powers to appoint professors in said college, and also all powers to appoint and displace any trustee or member of said college, now nominated and appointed by this charter, or hereafter to be appointed by us, or our successors; and also reserving all powers to confer degrees on any member, or trustee, or student of said college, which, in our opinion, and in the opinion of the president and other trustees and members of said college, may be worthy of any literary mark of distinction, in such manner as may be directed by us; and also reserving to ourselves and our successors, the right of appointing fellows and honorary members for said college, and also of making such further grants or ordinances as we and our successors may find necessary and useful for said college; and also reserving to ourselves and our successors the right to alter and modify this ordinance, establishing the said college, whenever we or our successors shall deem it necessary or expedient.

"We do finally ordain, grant, and declare, That the said trustees and members of the *College of Physicians and Surgeons in the City of New-York, and their successors, for ever*, shall enjoy all the corporate rights, privileges, and immunities which are hereby granted.

"In testimony whereof we have caused our common seal to be affixed to these presents the twelfth day of March, in the thirty-first year of the independence of the United States, and of our Lord one thousand eight hundred and seven.

"[L.S.A.] MORGAN LEWIS.

"By command of the Chancellor,
"FR. BLOODGOOD, Secretary."

[*To be continued.*]

UNIVERSITY OF THE STATE OF NEW-YORK.

College of Physicians and Surgeons,—May 20th, 1828.

Whereas the regents of the University have appointed the last Tuesday of October of each year, as a semi-annual commencement of the college of Physicians and Surgeons in this city, for the purpose of conferring the degree of Doctor of Medicine on such candidates as may be found qualified to receive it; notice is hereby given, that application must be made to the Registrar, by all who wish to become candidates for the degree of Doctor of Medicine at the October commencement, on or before the first Tuesday of September, that they may receive their several examinations before the Faculty of the College, which will meet for that purpose on the Tuesday following.

By order of the Board of Trustees,
N. H. DERING, M.D. *Registrar.*

QUARTERLY BIBLIOGRAPHICAL NOTICES.

1. *Medical Flora, or Manual of Medical Botany of the United States of North America.* By C. S. Rafinesque, A. M. P. H. D. &c. Vol. I. Phil. 1828. 12mo. pp. 288.

Review in our next.

2. *A Physiological Inquiry respecting the action of Moxa, and its utility in inveterate cases of Sciatica, Lumbago, Paraplegia, Epilepsy, and some other painful, paralytic, and spasmodic diseases of the nerves and muscles.* By William Wallace, M. R. I. H. &c. &c. &c. Dublin. 1827. 8vo. pp. 148.

The principal object of Mr. Wallace, in this volume, is to remove the prejudices which appear to him to subsist in Great Britain against an important external remedy in many severe diseases, the value of which has been attested by Larrey, Percy, Dupuytren, Pelletan, Richerand and Roux. With a similar view we now recommend his work to the general notice of American physicians, on whom the treatise of Larrey, republished in this country, does not seem, as far as we are informed, to have produced all the effect to which it was fairly entitled. The advantages enjoyed by Dr. Wallace, in obtaining experience, have been very great, and he has evidently not neglected them. For eight years he has been connected with the Dublin Infirmary for cutaneous and rheumatic diseases; and he has set a laudable example to medical men, of improving the opportunities which such a connection affords for cultivating our art, but which are, either from incapacity, or carelessness, or utter apathy, too frequently overlooked. In this as well as the volume on chlorine, noticed under the next head, Dr. Wallace displays no ordinary powers of observation and judgment, and the fact of his volumes having already become popular in his own country, is no slight evidence of the esteem in which he is held. It is only necessary for the profession in the United States to become acquainted with the labors of Dr. Wallace to appreciate them; and we would avail ourselves of this opportunity to impress upon the mind of every physician connected with a public institution, to imitate his example, and emulate his zeal in extending the boundaries of medical science.

3. *Researches respecting the medical powers of Chlorine Gas, particularly in diseases of the Liver; with an appendix, containing a description of the apparatus used for its administration, illustrated by plates.* By William Wallace, &c. Second Edition. London. 8vo. pp. 150.

In a very unassuming, but strictly philosophical manner, Dr. Wallace has exposed in this volume the advantages to be derived from the proper application of this gas, in a numerous class of diseases which are frequently occurring in practice, and not seldom perplexing the physician who relies exclusively on the aid of mercury in their treatment. The Nitro-muriatic acid bath was for a long time used as the dernier resort in such cases, on the recommendation of Dr. Scott of India. It was however found so uncertain in its effects, that it was soon abandoned, and is now sparingly used. Some casual events having called the attention of Dr. W. to this remedy, he sought to ascertain the proper method by which its remedial agency might be permanently secured and rendered uniform. In his researches he was chiefly guided by the true spirit of inductive reasoning, and the result has been the present volume. In the first part the author discusses the important subject of medicines which act on the skin, and through this on the internal organs of the body. He establishes the fact, that these remedies exercise a much more efficient influence on these last, when exhibited in a gaseous form, and after the external organ has been exposed for some time to the action of increased heat, by which its absorbent powers are excited to increased action. Our author next turns his attention to diseases of the Liver, which he considers as occurring more frequently, and more frequently complicated with, and aggravating other diseases than was formerly imagined. He then relates cases in elucidation of his views, all of which are interesting, and deserve attention. In the third part Dr. Wallace considers the general agency of chlorine, and the best mode of employing it. Its immediate action appears to be exerted on the skin, causing a stinging sensation, followed by itching and smarting, and an increase of perspiration. The most important effect is a rash, or eruption of very small papulæ over every part of the body, especially on the back, breast, abdomen, and extremities. This is always to be regarded as a favourable event. The mucous membranes generally partake of this action, and it is extended to almost all the important functions of the body. We would be pleased to see the remedy extensively tried in this country, by intelligent and liberal physicians. The attempts of empirics, or those associated with empirics, are not likely to prove serviceable to the cause either of science or of humanity. The same industry and ability are displayed by Mr. W. in this, as in the preceding work.

4. *The Glasgow Medical Journal.* Edited by WILLIAM MACKENZIE, Andersonian, Professor of Anatomy and Surgery, and Surgeon to the Glasgow eye Infirmary. February 1828. Vol. I. No. 1. Glasgow. In exchange.

5. *Litterarische Annalen dergesammten Heilkunde.* Herausgegeben von Dr. J. F. C. HECKER, Professor, &c. 6 Nos. from July 1827, to July 1828. In exchange.

6. *An essay, pharmacological and therapeutical, on Sanguinaria Canadensis, with a plate.* By William Tully, M.D. of Albany. New-York, 1828. 8vo. pp. 92.

Review in our next.

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7. *An Address pronounced before the medical graduates of the University of Maryland.* April 7th, 1828. By N. R. Smith, M.D. &c. Professor of Surgery. Baltimore, 1828. 8vo. pp. 24.

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8. *The Boston Medical and Surgical Journal.* 5 Nos. from No. 14 to 18. In exchange.

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9. *The Western Journal of the Medical and Physical Sciences.* Edited by Daniel Drake, M.D. No. 2

In exchange. The first number of this Journal has never reached us.

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10. *Disputatio Medica Inauguralis de Tuberculorum origine et progressu, &c. pro gradu doctoris Edinb.* Gulielmo S. Scott, Auctore. Edinburgi, 1827. 8vo. pp. 21.

From the author. We have read with much satisfaction this very creditable production of our countryman and fellow-citizen Dr. Scott.

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11. *Annals of the Lyceum of Natural History of New-York.* Vol. 3. Nos. 1 and 2. For April 1828.

These numbers are occupied with a very valuable paper from Dr. Thomas Thomson, of Glasgow, on the chemical examination of a number of American minerals.

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12. *American Medical Recorder.* No 42. In exchange.

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13. *The Western Medical and Physical Journal.* No 12. In exchange.

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14. *A Manual of Operative Midwifery, translated from the French of* Dr. Julis Hatin, *Professor attached to the faculty of Medicine of Paris.* By Richard Tuite, M.D. of New-York.

Under the form of a Manual, this work embraces the whole system of practical obstetrics. While the author has been careful to exhibit all those facts, from which the principles of the science are deduced, and upon which the precepts of art rest, as the evidence of their utility, he has been equally solicitous to exclude every thing like irrelevant matter, which could only tend uselessly to complicate the subject, and divert the attention of the student. The author first treats of what may be called obstetrical anatomy; he then details with clearness and precision, the whole operation of natural labours; hence he deduces the principles of the science of midwifery; on principle he builds precept; he then teaches the application of precepts, by describing in detail the whole manual exercise necessary to fulfil the indications of every case of unnatural, or preternatural labour. To teach an easy and skilful method of operating is the object of the author: its acquisition forms the skilful midwife, in contradistinction to the mere scientific speculator. The method of the whole work is most simple, and its style concise and perspicuous. While it is calculated to prove a useful pocket companion for the practitioner, it is also designed as a guide to the student, who is ambitious of attaining a practical knowledge of the obstetric art. This work will be republished in this city.

The honorary degree of Doctor in Medicine has recently been conferred upon Dr. Henry Bowen, of Myerstown, Pennsylvania, by the Alleghany College.

OBITUARY.

Died on the 14th of June, in the 63d year of his age, Wright Post, M.D. late Professor of Anatomy, and President of the College of Physicians and Surgeons of New-York.

In the death of this truly eminent physician, a loss of no ordinary character has been sustained. For the last twenty years he was the undisputed head of the profession in this city, and his death has left a breach which will not soon or easily be filled. Of the means by which so enviable a distinction was gained, it is not our purpose at present to speak. They are fit subjects for future eulogium, and will be duly noticed, when his character comes to be delineated for the emulation and imitation of those who survive. Deeply sensible of their loss, the Medical Society of this city have assigned to Professor John Augustine Smith, the task of commemorating the private virtues and public services of their deceased associate.

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ART. I. *An Essay on Neuralgia.* By JOHN GORRIE, M.D. of Abbeville, South Carolina.

THE course of nature in continuing the human family subject to the same diseases from the most remote period to the present time, has preserved a remarkable uniformity. There are, however, deviations from the direct line of her march; and among these, there is reason to believe, that the terrible disease which is the subject of this essay, is, from its comparatively modern origin, conspicuous. No description of it appears in the writings of the Greek physicians, and it is not probable that a complaint marked, as this is, by a prominent characteristic, would have been allowed by those accurate and minute observers of disease, to have passed unnoticed if it had existed. Nor is it till we descend in the history of medicine in the latter part of the seventeenth century, that we discover any mark of its influence over mankind; and then it is so obscurely traced, as to be with difficulty recognised. But in the following century, several good accounts of the disease were given to the world; of which one by André, of Versailles, published in 1756, may be considered the first accurate description of its distinguishing features.

For a considerable time after the publication of this surgeon, the notices of the disease continued few and at distant intervals; but of late years cases have been brought before the public in greater numbers annually, proving that the complaint is remarkably on the increase.

In connexion with the history of the complaint, it ought to be mentioned that until within a few years, it was thought to be confined exclusively to the nerves of the face; but its repeated occurrence in various other parts, has proved its more general diffusion, and rendered it probable that all the nerves are subject to it—"cerebral, spinal, or ganglionic."

The local habitation assigned to the complaint required a corresponding appellation; and, hence, Dr. Fothergill, who was the first to publish a history and description of it in the English language, called it "Faciei Morbus Nervorum Crucians." A variety of other names, as tic doloureux, hemicrania idiopathica, trismus dolorificus, autalgia dolorosa, have been given to it; but that employed by Dr. Fothergill, was continued by most English writers until the liability of all the nerves of the human frame was discovered, and a generic term for the disease became necessary. To Professor Chaussier we are indebted for the term Neuralgia, which supplied the deficiency so well, and was considered so expressive of the nature of the affection, as to be generally adopted.

Causes. On the important subject of the remote causes of this dreadful disease, we are not able to say much with certainty. This is a subject of regret, as it prevents any account of it from being complete, and is more to be deplored from the consideration, that it is believed much of the difficulty in curing the complaint would be removed, could we have correct views of its etiology. A number of derangements of the body, both local and constitutional, have been found to precede and accompany neuralgia, and these have been considered, and from their removal eradicating the disease, no doubt are, exciting causes.

The following have been mentioned as local causes of the complaint. Irritation has sometimes produced it, as from an ulcer connected with a branch of a nerve, an anastomosis between the affected nerve and that of a decayed tooth, or from a carious bone. Injuries from blows, falls, pressure on nerves during parturition, seem to have produced complaints very much like it, if not actually neuralgia. A violent cold appears to be not an uncommon cause. Debilitating discharges in the weak and delicate, as hæmorrhage or diarrhœa, are said to be causes of painful affections of the nerves.

The constitutional causes are considered more numerous and of much more frequent occurrence. Of these two have been supposed to be discovered which are not removable: in one, Dr. Pemberton's case, it was thought to be an irritation of the brain produced by a bony excrescence; in the other, it was considered an organic disease of the base of that organ.

But the most general cause is now considered to be a depraved state of the system. This depravity, the opinions of authors and the effects of remedies, proves to be of various kinds. Dr. Fothergill thought he traced it to a cancerous habit of body; in some instances it has been supposed to arise from a syphilitic taint; in others it has been considered dependent on a rheumatic diathesis; and several authors refer it to an arthritic state of the system. Dr. Armstrong attributes it to a venous congestion, or an increased action in the arteries of the brain. The editor of the Medico-Chirurgical Review thinks it commonly the case, that it arises as a consequence of debility or derangement of function of some internal organ, as of "the stomach or intestines, at a great distance from the seat of the actual pain."

Although neuralgia has been considered symptomatic of so many complaints, it seems not to be denied that it is idiopathic also.

Character. The only constant symptom of neuralgia is pain, which is of a peculiar lancinating kind, and corresponds in its course with that of the nerves affected. This pain, although varying in degree in different constitutions, exceeds that of every other disease, "exciting the most exquisite anguish which human nature can possibly suffer without destroying life." It varies considerably in the different stages of the complaint; in the incipient, the attacks are so brief and slight as to be almost imperceptible; but in the advanced stage they are lengthened, are more sudden and violent in their occurrence, and quicker in their succession. The continuance of the pain seldom exceeds a minute, when it often remits as suddenly as it came on, leaving no other sensation than a dread of its return, or a slight tenderness and soreness of the part affected. The intermissions are of uncertain duration, seldom exceeding, though often extending to fifteen minutes; they, however, are liable to continual interruptions from numerous exciting causes; thus, a draught of cool air, the action of the muscles of the part affected, or mental agitation, will produce a paroxysm. An accompaniment of the pain, not universally present, but so generally that it might be considered a characteristic of the complaint, is a spasmodic twitching of the muscles of the diseased part. And a singularity of the affection is, that while a slight touch of the diseased part, as alluded to above, will bring on a paroxysm, it may be roughly pressed, or rubbed without inconvenience, and during a paroxysm with relief. It is, perhaps, a consolation to the sufferers by this disease, that, notwithstanding the dreadful severity of the pain, it has rarely produced death; and it seems, in general, to exert little influence in subverting the foundations of life.

Although every part of the system is liable to neuralgia, yet the severest and most common form of it is seated in the face. In this situation, the pain, though sometimes extending to the greater part of the head, is generally confined to one side only, and frequently to but a part of that, as one eye, the upper lip and nose, or the gums.* The actual seats of the complaint are most frequently the portio dura of the seventh, and the superior maxillary of the fifth pair of nerves; though the instances of its attacking the superior orbitary, and inferior maxillary branches of the latter nerve are numerous. But it has been observed, that in whatever nerve the disease may originate, if it continues, it will spread until every nerve of the face is affected.

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* Medico-Chirurgical Review.

There is nothing peculiar in the disease situated in other parts of the body, excepting what may arise from the length of the nerve affected. The racking and lancinating pains appear, as in the face, to shoot along the branches of the diseased nerves towards their trunks; and sometimes extend from the extremity of a limb through its whole course, and even into the neck or loins.

Age &c. most liable. Neuralgia has been found in nearly all ages; in both sexes; in the robust and in the delicate. But it most commonly arises in advanced life, seldom attacking under the age of thirty; women appear to be considerably more subject to it than men; and persons of a delicate irritable habit and nervous temperament, are much the most frequently afflicted.

Diagnosis. Neuralgia, when seated in the face, has been occasionally mistaken for hemicrania, tooth-ache, and abscess of the antrum; and in any part may be mistaken for rheumatism, neuritis, and periostitis. From these complaints it is not difficult to make a distinction, when an accurate inquiry is made into the origin, progress, and present symptoms of the disorder. Hemicrania is known by the pain being general over the head; where as in neuralgia it accurately follows the ramifications of the affected nerve. Tooth-ache may be distinguished by the depth and pungency of the pain; its permanence and confinement to one spot; its absence from convulsive twitchings. The pain extending into the nose, the pressure on the eye and tumour of the cheek are sufficiently distinguishing characteristics of abscess of the antrum. Rheumatism may be readily distinguished by its fever, reddess, heat, and local swelling.

The affection for which it seems most likely to be mistaken is inflammation of the nerves. M. Martinet, of Paris, is the discoverer of the difference between this complaint and neuralgia. Neuritis, he says, he always found seated in the neurilema, or membrane investing the pulp of the nervous fibrils, and never in the nervous pulp itself. The symptoms accompanying the complaint, he states, consist in more or less complete diminution of function in the affected nerve;

in pain of a benumbing as well as lancinating kind, *never suddenly intermittent*, but generally continued with occasional exacerbations and remissions.

The diagnostic differences between periostitis and neuralgia, I am not prepared to designate with precision. In the former, however, the pain is deeper seated, more constant, with more or less heat present, and frequently a sense of pulsation; it is increased by pressure, and in proportion to its violence; the patient complains of a sense of tumor, which his feelings magnify much beyond its real size; and it terminates, after a longer or shorter time, in resolution, abscess, or gangrene.

Terminations.—The complaint has been said to terminate, in several instances, in a fatal coma. Sometimes it terminates spontaneously, but a long and tedious period is requisite, it having been known to last upwards of twenty years. This termination is effected by the nerve and its ramifications becoming gradually torpified, by the excess of irritation of the disease.* Mr. Swan relates a case where the pains instantly ceased and returned no more, on the supervention of an eruption resembling the nettle rash, which came all over the patient's body; and there are several other instances on record, of the occurrence of other diseases removing neuralgia.

In the Medico-Chirurgical Review† there is an account of a case of neuralgia, which I repeat for its singularity. The affection commenced in the arm, from which there was a metastasis to the chest and stomach, producing in the former a sensation of tightness and stuffing, and in the latter a violent cardialgia, with vomiting of every thing taken. The affection of the chest and stomach continued six months, and then ceased entirely, but a copious diarrhœa took their place, and continued for two months. "The neuralgia of the digestive organs now shifted to the uterine system, producing violent pain in the hypogastric region, and suppression of the menses." The patient was now relieved by the application of the moxa to the affected arm.

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* Good's Study of Medicine, Vol. III. p. 196.

† Vol. II. p. 427.

Proximate Cause.—The variety of theories on this subject exhibit a greater diversity of opinion than is found on any other disputed point of the disease. In the eagerness of authors to fix on something definite, each of the constitutional exciting causes of the complaint has been considered its proximate cause. With regard to these it is only necessary to observe, that as no one of them has been found present in every case, no one can be the proximate cause. Passing over some others that have been assigned, I shall consider two theories that appear to have a pretty general prevalence—those of Dr. Parry and Mr. Swan. The former expressed the opinion that the proximate cause consisted in "an increased vascularity or determination of blood (perhaps amounting to inflammation) to the neurilema of the nerves affected." That this opinion is not correct, the symptoms of the disease during life would seem to indicate; and Mr. Swan expressly declared that in dissections of subjects who had been affected with neuralgia, there was no alteration in organization, nor any of the effects which are known to follow an inflamed nerve. The same conclusion is to be drawn from Mr. Martinet's observations. On the other hand, the editor of the Medico-Chirurgical Review says, there is, generally, an increase of heat and vascularity in the part affected; but this, he also states, is found more especially in "the progress of the complaint;" and he seems to consider them as the effects of the nervous irritation. These evidences are sufficient for us to draw the conclusion that the proximate cause does not depend upon a congestive or inflammatory state of the neurilema of the diseased nerve.

The hypothesis of Mr. Swan supposes, that where the disease arises spontaneously, or in some cases, where a slight wound has been inflicted, the complaint is only symptomatic of a general irritability of the brain and nervous system. To this theory it must also be objected that it is not applicable to all cases; for it not unfrequently happens, that the disease arises in individuals enjoying, in every other respect, sound health; and besides, the author's idea of it gives it a limited operation, which is adverse to the nature of a proximate cause.

Considering these several hypotheses untenable, the question recurs, what is the proximate cause? Difficult as the answer must be from the obscurity of the operations of the nervous system, I conceive, from a view of the character of the complaint, that we are left to seek it in the sentient part of the nerve itself; and it probably consists in an increased irritability and morbid sensibility of its medulla.

Treatment. The obstinacy of neuralgia in resisting remedies, frequently equals its severity, often defying the united skill of the most experienced physicians and surgeons. And this from the want of remedies operating directly on the affected nerves, will, it is probable, continue frequently the case; though some part of the failure which has hitherto attended its treatment, may be attributed to a neglect of ascertaining its causes, or a want of correct views of them. It appears to have been too generally considered that the affection is exclusively idiopathic, or arises from an uniform cause, and hence, that a remedy which has proved successful in one instance ought to be equally so in another. Particular views of the proximate cause have led to uniform and unsuccessful plans of treatment. That it is not dependent upon a single cause, is sufficiently apparent from the preceding account of them; and the only way, in most instances, of operating upon the proximate cause, is by the removal of the remote. As these remote causes have been found of various kinds, it is evident that they require a diversity of treatment; the remedy which would be proper for the disease arising from one cause would, it is probable, be pernicious where it arose from another. These considerations seem to demonstrate, that in commencing the cure of this complaint, our first object should be to ascertain its etiology.

A variety of remedies have been employed in the treatment of this terrible disease; but accessions to the number have been made as often experimentally, as from pathological considerations. In the following pages I shall endeavour, as far as it is practicable, to connect the causes of the disease with a brief view of its appropriate remedies. These remedies may be divided into two great classes. Topical and Constitutional.

Topical applications.—The use of this class of remedies has been very much limited, since the discovery that neuralgia has a constitutional, as well as a local origin. This change of opinion, we have reason to believe, has caused them to be improperly neglected. As remedies where the complaint arises from a local cause, they are unquestionably indicated. Again, when the disease evidently originates from a constitutional disorder, and general remedies do not act with sufficient force to enable the system to overcome the nervous affection, topical applications will be found valuable auxiliaries.*

Cauteries.—André, according to Dr. Good,† succeeded in removing neuralgia permanently, by applying a caustic to the infra-orbitary nerve, in one case in which a previous division of the nerve by the scalpel produced only a temporary cure. Neuralgia has been cured by the application of the moxa. "Baron Larrey has had much success with this measure. He applies it repeatedly; burning the part affected ten, twelve, or more times, and following the pain wherever it takes up its domicile." Another French surgeon, M. Delpech, destroys the diseased nerve by the actual cautery, and when the eschar separates, he does not permit the wound to heal, but keeps up a long continued suppuration.‡

Removal of irritants.—As the disease sometimes arises from a carious bone or tooth, it is important that it should be discovered and removed; cases which had resisted all other modes of treatment, have been finally cured by removing such an irritation.

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* In illustration of this opinion, I could detail two cases where the neuralgic affections continued after the constitutional diseases appeared to be removed, and where the patients were cured, in a few days, by making caustic issues over the course of the affected nerves.

† Study of Medicine, Vol. III. p. 195.

‡ Medico-Chirurgical Review.

Belladonna.—Several cases of neuralgia have been relieved almost instantly, by the application of a strong watery solution of belladonna to the skin over the affected nerve, after a variety of other applications had been resisted. The solution may be made of sufficient strength, by dissolving two drams of the extract in an ounce of water.

Cerussa.—According to Mr. Beddingfield, Sir Astley Cooper cured a case of neuralgia by paralysing the nerves with cerussa. Two scruples were formed into an ointment, and rubbed on the affected cheek about an hour before the paroxysm was expected. The effect of the lead is reported to have been rapid and striking; the person being rendered comparatively comfortable in a short time from a state of excruciating torment. The carbonate of lead united with opium, and formed into an ointment, is a popular remedy in the French hospitals for this complaint.

Acupuncturation.—This singular remedy has risen into considerable reputation, as a means of curing local pains of a nervous character. M. Berlioz of Paris, Dr. Haime of Tours, and Mr. Churchill of England, seem to have removed diseases of a neuralgic nature, by a few minutes' application of the needle. M. Pellatan says, he has repeatedly seen neuralgia completely cured by one, two, or three applications of acupuncture; and thinks himself authorised to aver that it is a remedy without inconvenience, and almost without pain, which nearly always cures neuralgic pains. In the practice of M. Bally, the application of the needle in some cases of neuralgia, completely cured them; in others it totally failed of ever giving relief. Similar results attended its use in the hands of Dr. Bache of Philadelphia. The writer has been informed, by a respectable physician, of two cases in which the needle had been applied, in one of which it effected a complete cure, and in the other produced great relief. Upon the whole, the mass of evidence is in favour of its efficacy; and as most writers agree that its application is attended with little pain, it is a remedy certainly deserving of a trial.

The scalpel.—While neuralgia was considered an entirely local disease, the division of the affected nerve was thought to be the only artificial cure. Even since it has been ascertained to be also a general disorder, "from the utter inefficacy of other local and constitutional treatment it has been resorted to;" and perhaps, has attained as much success as most other remedies. This success would probably be greater, if prejudice did not oppose its use till the disease has extended from its primary seat to the neighbouring nerves. It must, however, be acknowledged that there are great objections to the use of the scalpel; numerous instances are on record, where the operation has totally failed in every stage of the complaint; while in others, where it has produced relief, the affection has recurred on the reunion of the divided nerve. Another objection to its employment, at least on the face, is the greater or less deformity it produces on the operated person; and this objection extends to a much better instrument, Sir A. Cooper's curved bistoury.

Constitutional Remedies.—It seems to be the opinion of most late writers on neuralgia, that it is exclusively a constitutional complaint. The views I have taken of the nature of the disease, lead me to conclude that it may exist as a strictly local affection; still I agree with those authors who represent it as originating, in the greater number of cases, from a constitutional cause. At the same time, I consider the disorder of the system as, sometimes, an accidental accompaniment, arising from the patient being most susceptible to the attacks of both diseases at a common period of life; and it is not improbable that it may, occasionally, be an effect of the local irritation. But whether the constitutional complaint is a cause, accompaniment, or effect of the neuralgia, may generally be ascertained by attention to the period of its occurrence; and perhaps it is not a material point which it is, for it does not exist long without exerting an influence over the nervous affections, and then it becomes important for the cure of the latter, that the constitutional disorder should be removed.

Those writers on this disease who have assigned to it a constitutional cause, have each employed in the treatment the medicines which accorded best with his pathological views of its origin. These, and others which have been found serviceable in neuralgia I shall distribute into four classes—Alteratives, Anti-rheumatics, Narcotics, and Tonics: each, however, must be considered as requiring the auxiliary means of blood-letting or emetics and purgatives, and an attention to diet and exercise.

Blood-letting.—This remedy was recommended by Doctor Armstrong, on the supposition that neuralgia was a complaint of the brain; and by others, on the idea that it consisted in an inflammation of the neurilema of the affected nerve. In cases where the disease is preceded and attended by the symptoms, Dr. Armstrong always found, "such as pain, giddiness, confusion, or some other uneasiness of the head," &c. bleeding ought not to be omitted. Where, also, the complaint occurs in a full plethoric habit, and is not of long existence, it will be an useful remedy.

Emetics and Purgatives.—In whatever diseased state of the constitution the complaint may arise, it will, as a general rule, be found highly necessary to commence the treatment by evacuating the stomach and bowels. Mild emetics are particularly useful, not only in removing the morbid matter in the stomach, but also in exerting a specific effect on the disease, which if they do not completely remove, they always succeed in alleviating. They are the remedies best calculated for breaking up the morbid association by which the disease is continued, and thereby giving a greater facility to the operation of the alteratives, anti-rheumatics, narcotics, or tonics. Purgatives, likewise, besides their benefit in unloading the intestines of fæces and excrementitious matters, have the more salutary effects of aiding in restoring the healthy secretion of the digestive organs, and in preparing the system for the full operation of the other means of cure.

I. ALTERATIVES.—The medicines composing this class, united with low diet, constituted Mr. Abernethy's plan of treatment of this deplorable disease; and where it has been supposed to be dependent on a syphilitic taint, they have been employed by others. As general remedies they have "unquestionably, in several instances, given great relief, and in a few, effected an entire cure; but still they have been far from being even generally successful."[*] In cases symptomatic of syphilis, a perseverance in their use may be expected to effect a removal of the complaint.

II. ANTI-RHEUMATICS.—The manifest resemblance observed to subsist between certain chronic forms of rheumatism and many cases of this painful affection, led to an early use of remedies in the latter disease, which had been found successful in the former.

Arsenic.—Among the remedies of this class, this powerful article of the materia medica has been frequently employed, and with various reports of its success. In one instance its exhibition proved injurious, in others unvailing, but in several cases it has been prescribed with great and permanent benefit. The hurtful effects of arsenic on the constitution, when its use is long continued, which is required in this disorder, is a great objection to its employment.

Calomel and Opium.—Mercury, in several of its forms, has occasionally proved successful, especially when carried to the point of salivation; but the preparation of the sub-muriate with opium has been attended with much the most beneficial effect.

Guaiacum.—Dr. Hosack,[†] observing the analogy between rheumatism and neuralgia, thought that benefit might be obtained by the use of the volatile tincture of guaiac; which, in a case he mentions, in the dose of a tea-spoonful every two hours, produced relief whenever the patient had irritation in the affected part.

Turpentine has effected a speedy and complete cure in several individuals, where the disease was seated in the sciatic nerve; in others, though relief was experienced, a relapse took place. It was administered in the dose of a dram.

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[*] Medico-Chirurgical Review.

[†] See Appendix to Thomas's Practice.

Vinum Colchici.—Mr. Tyrrel* relates a case where this was the only medicine from which the patient derived much relief, and where all the most popular remedies had been taken. The salutary operation of this article on rheumatism, gout, and other painful·affections of the asthenic kind, seems to designate it as an appropriate remedy in neuralgia.

III. Narcotics.—Pain seated in the nerves being the characteristic feature of neuralgia, and the prominent effect of anodynes, consisting in the production of torpor of the nervous system, the whole class has been naturally resorted to for relief. Its success has not been commensurate with the expectation excited by its character, and in consequence it is declining in reputation; yet there is reason to believe, that in many instances, it will be found the most effectual class of remedies. A case which came within the writer's observation, in which the administration of tonics, including the carbonate of iron, was attended with no advantage, but which was permanently cured by the use of anodynes, is an evidence in support of the opinion. The individuals of this class of medicines are not all equally active in subduing the complaint, even in the cases in which anodynes may be supposed serviceable—indeed the want of conformity in their operation, cannot be better illustrated than in their effects on this disease. Opium, the most powerful of the class, has been largely prescribed, and almost universally with little permanently beneficial influence, in some cases scarcely producing a transient relief,† while many others, whose general operation is far inferior, have cured the complaint. It would seem, that those individuals of the class have been found the most sanative, which have the least effect in constipating the bowels, or in otherwise deranging the digestive functions.

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* This case was not supposed to originate in rheumatism. See Note to Sir Astley Cooper's Lectures, Vol. II. p. 305.

† Medico-Chirurgical Review.

The employment of narcotics cannot be limited to any particular state of the constitution. In all they will be required and found valuable auxiliaries. They may be considered as primarily indicated in the variety of the disease, accompanied with spasmodic action: and where it is found connected with a vitiated state of the body, which is independent of a specific disease, as rheumatism, syphilis, or a derangement of the chylopoietic viscera.

Conium maculatum.—The eminently sedative operation of cicuta, would readily suggest it as among the most effective means of allaying the morbid irritability of neuralgia. With this view it was early employed. Dr. Fothergill found it a successful remedy; and it was the medicine principally relied on by Dr. Jackson, of Boston, in the treatment of this complaint. Dr. Willoughby, the distinguished professor of obstetrics in the university of the state of New-York, informs me he has given it in several cases with great benefit. Much more evidence, and some of it quite recent, could be adduced to prove the service of cicuta in neuralgia. It must not, however, be concealed that it has often failed; enormous quantities of the extract, obtained from respectable druggists, have been taken in a short space of time, without procuring even momentary relief. This failure was attributed by Dr. Jackson, to the employment of an inferior quality of the preparation, or the want of precise rules in its administration. "Experience," he says, "proves that unless cicuta be given so as to produce a sensible effect on the system, it seldom exerts its influence over the local affection, but on that being attained, a subsidence of the pain is the immediate consequence." A more probable cause of its frequent failure is its too general use. From the evidence on the subject, it appears that no one of the class of narcotics is more deserving of our confidence than a good preparation of the cicuta. Its use should be commenced in the dose of a grain of the inspissated juice, repeated every two hours, with the addition of a grain till it amounts to five, or till dizziness or nausea evince its effects on the system.

Ammonia was successfully employed by Dr. Fothergill in the treatment of this complaint; and was also in the hands of Dr. Jackson, the means of effecting a cure in one instance. It was given in the dose of from one to three tea-spoonsful of the watery solution three times a day.

Belladonna.—This energetic narcotic was for some time considered the most certain and prompt remedy that could be employed; but either the danger of its operation on the system, or its failure in fulfilling the character given to it by its introducer, has thrown it into disuse. It was administered in doses to adults, of two or three grains of the extract, or from twenty to forty minims of the tincture, every four or five hours, during the severity of the paroxysms.

Stramonium.—The inspissated juice of stramonium is getting into considerable importance as a successful medicine in neuralgia. In some instances, particularly in young persons, it has effected a cure; and has often produced considerable respite where a variety of treatment has been resisted. Its dose is half a grain three or four times a day.

IV. Tonics.—It has been found that the state of the system preceding and accompanying this direful complaint consists, in a majority of cases, in a debilitated condition of the digestive organs. The frequency of this cause of the disease, and the salutary operation of tonics in removing it, by restoring these organs to a healthy tone, and correcting their depraved secretions, have often led to the abuse of this class of medicines; they have been employed indiscriminately, when so general a plan of treatment is as improper as it would be to give them in every stage of fever. It is not intended to inculcate that their use should be limited to the cases arising from a derangement of the digestive powers; in most protracted cases, especially after persevering endeavours have been made to remove the existing cause, they will be found he most successful remedies in effecting a complete destruc- n of the complaint.

The habit of body in neuralgia, indicating the employment of tonics, can be so readily conceived by every practitioner, that it is scarcely necessary to mention any of its symptoms; they are those attending a bad state of digestion generally, such as debility, defect of appetite, flatulency, &c.

Cinchona has been tried in a number of instances, and with various reports of its remedial powers. In some cases, related by Dr. Clark, it suspended the paroxysms for some months, but they eventually returned with greater violence than ever. Dr. Palmer exhibited it with much advantage, when the system had been worn down by protracted suffering, confinement, and a long course of mercury.* "It is under such circumstances," he thinks, "the cinchona is principally indicated." Mr. Swan appears to have used it as a general remedy with success. He speaks of it as the best tonic "for strengthening the constitution, and thereby enabling it to counteract the habit which favours the continuation of the irritation."

Sulphate of quinine.—The active properties of the bark residing in this salt, and it having been found in England and France a successful substitute in the treatment of neuralgia, it is unquestionably a better form of the medicine for obtaining its tonic effects, and renders it unnecessary to dwell on the manner of administering the bark. The sulphate of quinine should be given in the quantity of a scruple every twenty-four hours.

Henbane and Zinc.—It ought not to be passed over that in Germany, Dr. Meiglin has employed the combination of a narcotic and tonic. He composed pills of the extract of henbane and sublimed oxide of zinc, and, according to his own statement, their exhibition was attended with great success.† The increased energy given to medicines by their combination, and the character of neuralgia, resting generally upon an irritability and debility of frame, seem to give this union the appearance of great usefulness, and make the consideration of similar compounds worthy the attention of the practitioner.

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* Medico-Chirurgical Review.

† Good's Study of Medicine, Vol. III. p. 195.

Carbonate of Iron.—No article of the materia medica has acquired so great a reputation for success in the treatment of this painful affection as the carbonate of iron. On its introduction to the profession by Mr. Hutchinson, it received a high character, which the relation of a great many cases, in the practice of English and French physicians, where it happily effected a cure, has been in Europe amply confirmed. In this country it has been found, in a number of instances, a very efficacious remedy; but here have arisen the first serious complaints against its remedial powers, for in several cases it is stated to have proved entirely inert. Previous to the publication of this discrepance of opinion, it was considered as satisfactorily established, that the carbonate of iron, actively administered, was the remedy which had the greatest effect in conquering this obstinate and powerful disease. And it is now to be hoped, for the sake of suffering humanity, that its failure in the cases alluded to, is the consequence of misconceiving, or inattending to the state of the constitution in which it should be administered. In the use of the carbonate of iron it ought to be remembered, that the various other remedies calculated to invigorate the digestive powers, should also be employed.

It is administered in doses of from half a dram to a dram, three times a day; and when the system becomes accustomed to its use, the dose may be increased to two, three, or even four drams.

Diet and Exercise.—These may be regulated by the states of the constitution accompanying the complaint. In the young, robust, and plethoric, the diet should be antiphlogistic; where tonics are indicated they must be nutritive and generous, and wine or malt liquor should make a part of the patient's drink, or, in the absence of these, brandy and water may be substituted. The exercise should be in the open air; the mind should be diverted from business and care, and should be amused by a change of scene, agreeable prospects, and pleasant company.

Conclusion.—The preceding attempt to adapt the various remedies which have been found serviceable in neuralgia to the different exciting causes, is, I am aware, sufficiently vague, but an approximation to correctness will be found of value to the practitioner. That the successful treatment of the disease will depend upon administering remedies on this principle, must, upon a review of the nature of the disorder, be apparent. Thus, in the few cases which may be found to arise from a local cause, it cannot be doubted that the most rational mode of treatment will consist in topical applications; but where the disease originates in a constitutional disorder, it is obvious that its particular kind ought to be ascertained, and that such medicines should be exhibited as are adapted to the removal of this primary affection. If, however, constitutional remedies do not succeed in effecting a cure, local applications should be called in aid, and among these the counter-irritant of acupuncture should certainly be applied; and, if all these efforts at subduing this terrific disease should fail, which we have reason to think will rarely occur, as a dernier resort, resource must be had to the scalpel.

ART. II. *Cases of Strangulated Crural Hernia.* By JOHN W. STERLING, M.D. Fellow of the Royal College of Surgeons, London.

On the 15th August, 1815, I was called to visit Mrs. C. P. a cheerful widow, aged 71 years. She had been occasionally subject to retention of urine, which appeared to be her sole complaint at the time of the present visit. Her pulse being regular, and bowels open, twenty drops of the muriated tincture of iron were prescribed, which had the effect of promoting the desired discharge. Since that period she has been now and then similarly affected, and always relieved by the same remedy.

Aug. 16th.—She complains of some uneasiness across the lower part of the abdomen, and is desirous of having a blister applied. Ordered accordingly. Has had a gentle evacuation from the bowels this morning.

17th.—Pain or uneasiness removed; bowels constipated. Habeat submur: hydrarg: gr: vj.

18th.—Bowels still constipated; pulse slightly accelerated, but not tense. H: ol: ricini ℥ij.

19th.— 8 o'clock A. M. The oil has not operated; no distress at the stomach. Cathartic repeated.

12 o'clock M. Still no evacuation from the bowels; feels a sense of constriction and pain extending across the hypochondriac and epigastric regions; the pulse but little excited, no vomiting, but occasional eructations. I now suspected that there must be some obstruction in the bowels, and on examination discovered a tumour on the right side nearly as large as a hen's egg, and lying upon Poupart's ligament. Considering that this was a strangulated crural hernia, I resorted to the taxis, but in vain. Ice was directed to be kept constantly applied to the tumour.

4 o'clock P. M.—Repeated the taxis, but again unsuccessfully. Requested another opinion.

In the evening Dr. Valentine Mott attended in consultation, who attempted to reduce the hernia, but could not accomplish it. As there were no symptoms present indicative of immediate danger, gr: xv. of calomel were given, and poultices, or fomentations, alternated with ice, directed as external applications.

Aug. 20th.—9 o'clock A. M. Dr. Mott performed the operation for strangulated crural hernia. On cutting through the hernial sac the omentum presented itself, but there was no intestine visible, neither could any be discerned by pulling the omentum to one side or the other. Dr. M. then cautiously cut and tore through the omentum, until he came down to a small knuckle of dark-coloured intestine; so that there was a complete omental sac formed, in which the protruded intestine was completely enveloped.* The stricture being dilated by introducing the knife flatwise upon the extremity of the finger, and then turning its edge upwards, and incising towards the umbilicus, a small additional link of intestine was drawn down, which brought into view that portion of it which had corresponded to the crural ring : the protruded bowel was easily returned, but the omentum being crepitous, was allowed to remain in the wound. Immediately after the operation there was a copious evacuation from the bowels, which being repeated cathartics were deemed unnecessary.

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* This may account for the comparative mildness of the symptoms attendant upon the strangulation, and for its long continuance without pro-

21st. Some tenderness of the abdomen with frequent and contracted pulse. Twelve ounces of blood were drawn from the arm, and a blister applied over the abdomen. On the following day all inflammatory symptoms were removed, and on the 21st September, the wound was entirely healed.

On the 23d June, 1828, I was again called to this old lady, now seventy-four years of age. She had been complaining for a few days of considerable pain in the bowels, for the purpose of removing which she had taken some hiera picra, (pulv. aloes c. canella) but without much benefit. On the evening previous to my visit she was seized with vomiting, which had not ceased when I called upon her. Bearing in mind her former difficulty, I particularly inquired respecting the tumour in the groin, especially as it was very prominent whenever she was in the erect posture and the pad removed; but at present, being recumbent, it was not discernible. The eccoprotic mixture was ordered.

4 o'clock P. M. Has rejected the mixture. On further examination, I distinguished a small tumour on the left side, which was a crural hernia. I applied the taxis, which proving unsuccessful, ice was ordered as in the preceding case.

7 o'clock P. M. Repeated the taxis, but with no better success than at the first attempt. The pulse being frequent, strong, and sharp, I considered that no time should be lost, and therefore, requested another opinion. Dr. A. H. Stevens

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ducing mortification of the intestine, as the neck of the intestinal loop was shielded from the direct pressure of the ring by the omentum which completely surrounded it.

was called in consultation, who applied the taxis, but finding it ineffectual, decided that the operation should be performed immediately. The operation for crural hernia was, therefore, performed by Dr. Stevens, and the contents of the hernial sac were found to be omentum, and a small loop of dark-coloured intestine situated behind the former. The anterior portion of the omentum was cautiously divided, and the intestine detached from its adhesions with the finger; the stricture was then dilated upward and inward, and to such an extent as to allow the end of the fore-finger to enter the crural ring. The intestine being emptied, by gentle pressure was returned. A portion of the omentum was also returned into the cavity of the abdomen; another portion was pressed up as a plug into the crural canal,* and the remainder being closely adherent to the hernial sac, was left in the wound. The edges of the wound were then brought and kept together by means of adhesive straps, suture, and bandage.

H: enema statim. The injection not bringing away any fæces, she was directed to take two ounces of the following infusion every hour, until it operated on the bowels.

℞ Sulphat. magnesiæ - -	℥ij.
Fol. sennæ - - - - -	℥ſs.
Aq. bullient. - - -	Oss. M.

27th. 9 o'clock A. M. Has taken the whole infusion which has operated. Febrile symptoms being present, the following prescription was ordered:

℞ Nitrat. Potass. - - -	℈iv.
Antimon. Tart. - - -	1 gr.

Misce et divide in pulv. No octo. One of these powders to be taken every two hours.

7 o'clock P. M. Some tenderness of the abdomen being present, ten ounces of blood were drawn from the arm, and a large blister applied over the abdomen.

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* There has not been any descent of the hernia on the left side since the operation was performed, notwithstanding there has been no support given to the part subsequent to the cicatrization of the wound.

28th. 9 o'clock A.M. The alvine evacuations were very frequent throughout the whole of yesterday, but some inflammatory action persisting, the antimonial solution was ordered, and at 6 o'clock P.M. she was again bled to the extent of ℥xi. From this time she continued to improve daily, and on the 25th July the wound was cicatrised.

On the 8th of August I called to see this old lady, and found her in good health and quite cheerful. She easily ascends and descends two pair of stairs daily; with the assistance of a cane, however, which she has been obliged to carry for some years, in consequence of a fracture of the right cervix femoris, which occurred the winter preceding the first operation for hernia. It may not be amiss to state that Mrs. P. bore the operations with the greatest fortitude, and it is principally on account of their successful result in a person so far advanced in life, that I have been induced to record them.

There was one circumstance, however, on which I would beg leave to offer a few remarks; I never have read of an instance wherein the omentum was protruded before the intestine, in such a manner as to form a complete pouch enveloping the latter on every side. Nevertheless this was the fact in the case first related, and I can readily conceive how it was effected. The patient was lame in consequence of a fracture of the neck of the right femur, which, together with age, obliged her to walk with a considerable inclination of the body forwards and to the right side, leaning on a staff. This position would naturally approximate the greater curvature of the stomach to the pelvis, and thereby tend to place the inferior part of the omentum directly over the internal opening of the crural canal; so that if a portion of bowel should be forced through this canal, it would either perforate the omentum, or carry an envelope of this membrane before it; consequently, if the latter should be the case, there would be an omental bag, embracing the intestine, within the proper hernial sac. Whether this be a proper explanation of the manner in which this bag is produced or not, is a matter of no great moment; but it is a matter of great importance to be aware that such a state of things may exist; otherwise, as the omentum, in a similar case, would completely envelope the intestine, the protrusion might be considered as an epiplocele simply, and if treated accordingly, the most serious consequences would follow; for it is evident, should the omentum be returned, without liberating the intestinal protrusion locked within it, that the strangulation would be liable to continue, and death consequently ensue. The same event would equally follow if the omentum should be allowed to remain in the wound after its stricture had been divided, for the omentum itself may gird the intestinal loop which it envelopes. If any appearance of the protruded omentum can afford an indication that a portion of intestine is contained within it, I would say that it will appear smooth, tense, and spherical. This was the appearance in the case under consideration; but it should not be depended upon, especially as the omentum contained within a hernial sac, may, so far as regards itself, be cut into with impunity.

ART. III. *A Case of Pseudo Syphilis.* By JAMES FOUNTAIN, M.D. of Yorktown, Westchester County, New-York.

ALTHOUGH syphilis has probably existed in some manner from the earliest ages, and has been generally known since the discovery of America by Columbus, yet even at the present day, its etiology, pathology, and treatment, are far from being settled. Some contend that its cause is a specific poison, sui generis, and always identical in essence, handed down to posterity, and modified by peculiarites of constitution and local circumstances; whilst others maintain that its causes are various, arising at different times from filthy morbid secretions, generating a multiplicity of venereal affections. Nor are writers more unanimous in their pathology, shaping their theory to that of its supposed causes. Some have attempted to prove that its varieties depend on the different textures in which they are located, being in one a simple inflammation, capable of being overcome by the natural efforts of the system, and in others influenced by different laws, presenting different aspects and pursuing different courses. Hence the origin of the distinction of syphilis and pseudo-syphilis. Neither are practitioners more uniform in their mode of treatment than in their theories. Whilst one set roundly assert that mercury is necessary in every case to ensure complete success, another as boldly affirm that it is never required. This diversity of opinion is easily accounted for from the well known fact that syphilis, when it first broke forth upon the world, was a highly formidable and dangerous disease, assuming the character of the plague, and attended by violent fever. Passing through so many constitutions, it has at length become a truly protean disease; and nothing but a perpetual and vigilant attention to its variations, can make a practitioner a competent and adroit manager of this loathsome enemy to domestic happiness. Hence the necessity of faithful reports of all cases deviating from the ordinary manifestations of this disease. For this reason I presume to introduce the following.

The subject of this communication was Mrs. B. aged sixty-four, of an unblemished character and good constitution, having suffered no sickness except the venereal, which she had legitimately contracted six or seven times. Two nights prior to my visit, she had had connexion with her husband for the first time in five years. During this interval she had enjoyed uninterrupted health, being fully determined to avoid the consequences. Though such accounts may seem dubious, nevertheless, I have no doubt of her veracity. Immediately previous to this lapse of time, she had suffered a most obstinate and protracted venereal affection, excited in the same manner by the first indulgence after an abstinence from matrimonial gratification three years. The invasion of her former disease being so unusual, and the circumstances so unaccountable, I suspected her narrative, for the husband seemed wholly free from any symptom of foulness, and solemnly declared his innocence and soundness for several years. But the two attacks and characters of the affections being identical, and the circumstances testified by both parties, separately examined, so exactly coincident, I could no longer withhold my belief.

November 11th, 1827. Immediately after coition Mrs. B. felt a severe pain in the loins and back, and a burning sensation *within;* slept none through the remainder of the night; on the following morning about 9 o'clock felt chilly, and an ague was the result; this lasted an hour, when it was succeeded by fever with thirst, headache, &c.; drank some warm teas, and took a dose of Epsom salts; at night much the same. 13th. I was called early in the morning and found her as stated; pulse 100, hard; tongue furred; thirst; dry skin; tenderness of the lower part of the abdomen, and a smarting and burning about the vulva, constituting, I thought, *vaginitis.*

V. S. ℥xvi. Sulph. magnes. ℥j. to be followed by a powder every two hours of nitrat. potass. 15 grs. tart. ant. 1 gr. with copious draughts of elm tea.

14th. Symptoms rather milder; repeat the salts and continue the powders; 15th, much the same; continue the plan; 16th, worse; small red papulæ began to appear, and continued breaking forth daily, greatly alarming the patient. I had assured her that she had no syphilis, but this eruption appearing, *just in the old way,* as she observed, I could no longer quiet her fears. Now, said she, I must take the mercury, and the sooner the better. However, I prevailed on her to persist in the antiphlogistic and alterative plan already commenced. The course stated, with some little variation, was pursued. The symptoms abated, but they soon rose, attended with all the appearances of Dr. Carmichael's papular venereal disease, and on December 11th, I was induced to abandon the above means. I could no longer resist her solicitations for the *strongest kind of mercury.* Oxymurias hydrarg. ℈j, brandy 1 pint, dissolve; of this she took a table spoonful three times a day. December 18th, symptoms much mitigated; continue the medicine. 25th. Every symptom vanished. Her gums all this time only slightly affected. No other medicine was taken except an occasional anodyne.

Her last attack, five years ago, as already observed, was precisely the same as this; but having given her calomel, and used mercurial frictions freely, I mistook the papular eruption for *erythema mercuriale*, and laboured under this error for several weeks, until an aged practitioner was consulted, who advised the *corrosive sublimate* as prescribed, and it accomplished a cure after a faithful use of calomel and blue ointment had failed. This led to the attachment of my patient to the strongest kind of mercury. Having briefly detailed two identical occurrences in the same individual, I shall leave the reader to his own reflections and inferences.

Art. IV. *Case of Rupture of the Uterus, in which Gastrotomy was performed.* By Edward Delafield, M. D. Professor of Obstetrics in the University of the State of New-York.

Rupture of the uterus is an accident so generally fatal, that it is desirable that the profession should be made acquainted with every case of it in which an attempt has been made to apply a remedy. The one employed in this particular case, the operation of gastrotomy, has in several instances succeeded; but it is equally desirable that the unsuccessful instances should be put on record. With this view, the following case is published.

Mrs. Cannon, of Brooklyn, was taken in labour on Sunday August 26th, at about six o'clock in the evening. The pains soon became severe, and continued with increasing rapidity and force during the whole night and the following day. The os tincæ becoming completely dilated, and the membranes protruding in a large tense bag, the latter were ruptured, and the waters discharged on Monday afternoon. The pains became still more severe, and with very slight intervals until eleven o'clock on Monday night, when they suddenly ceased, and a slight hemorrhage occurred from the uterus. The patient immediately vomited a small quantity of dark greenish fluid, became excessively prostrated in strength, with difficulty of breathing and extreme anxiety, and the pulse became extremely rapid and feeble. Under these circumstances she was bled by the attending physician, and, as was stated, with much relief.

At two o'clock on Tuesday afternoon, fifteen hours after the sudden cessation of the pains, I was called to this patient, and learned the foregoing history of her case. I was also informed, that upon an examination being made a few hours before I was summoned, the presenting part, which previously to the cessation of the pains had been readily perceived low down in the vagina, had disappeared, and was entirely out of the reach of the finger. The form of the abdomen had entirely changed also, and extreme tenderness on pressure was felt in every part of it.

From this history of the case, it was evident, that after an uncommonly severe labour of nearly thirty hours duration, the uterus was ruptured, and the child passed into the general cavity of the abdomen. Upon examining the patient, it was immediately demonstrated that this was the deplorable nature of her case. The hand placed upon the abdomen detected the outline and limbs of the fœtus, distinctly through the parietes of the cavity; and the whole tumour was much higher up than the natural one, and of a different form. Upon introducing the hand into the vagina, it passed readily into the uterus. No fœtus was discovered, and the cavity of the viscus was found to contain nothing but a coil of intestine, passing through a large rent in its left side.

The patient was, notwithstanding, in a more comfortable condition than could have been expected after so alarming an accident; and was stated to be decidedly improved in strength, and altogether better than immediately after its occurrence. She complained of no pain, except upon making pressure upon the abdomen; her pulse, although feeble and rapid, was less so than it had been.

It was, however, so evident that without removing the child from its present situation, the patient must quickly perish, that after explaining to her the nature of her case, I proposed the removal of the fœtus by an incision into the cavity of the abdomen; and the operation was immediately assented to, both by herself and her husband.

There was but one other alternative than this operation which could be looked to for relief; and that was cut off by the length of time which had elapsed since the rupture occurred; viz. introducing the hand through the rent in the uterus, drawing the fœtus through it, and delivering *per vias naturales.* Examination had proved this impossible; for the uterus, although it admitted the hand into its cavity, closely embraced it, and the fissure was contracted in such a manner as not to admit even a finger through it. To have forced the hand through it, under these circumstances, would probably only have hurried on the fatal result; and indeed the delivery could not probably have been thus accomplished at all. The operation of gastrotomy was therefore decided upon, and performed at six o'clock the same evening, in the presence of Drs. J. K. Rodgers, Cornell, M'Caffray, and M'Givney.

An incision seven inches long was made in the linea alba, terminating just above the pubis. Upon opening the peritoneum, a large quantity of bloody fluid gushed out; and when the opening was prolonged through the whole extent of the incision, the breech of the fœtus immediately filled and pressed through it. It was delivered as it lay, by the breech; the head passing through the incision with some little difficulty, which was obviated by pressing the chin down upon the chest. The child was of large size, and weighed probably at least nine pounds. Immediately after the delivery of the fœtus, the placenta, which had also escaped into the abdominal cavity, was removed. A portion of membrane was then observed lying in the intestines, which for an instant was supposed to be the omentum. On closer examination, however, it was found to pass under some portion of the small intestines, and to be a part of the membranes of the ovum. It was therefore removed. The surface of the uterus, which now lay entirely exposed, was then examined; and it was found that the intestine, which was previously felt within its cavity, must have been withdrawn from it while the fœtus was passing from the abdomen; as the rent was distinctly felt free from any portion of intestine. All the intestines within view, together with the peritoneum lining the abdomen, were observed to be much inflamed.

The quantity of blood lost during the operation was extremely small, not exceeding half an ounce. The intestines did not protrude at all at the incision, as was anticipated; and by supporting its sides, there was no difficulty in retaining them entirely within the abdomen.

The operation being finished, the wound was closed with sutures and adhesive plaisters, and the patient removed to bed. She had borne the operation remarkably well, and although the pulse was somewhat more feeble, her strength was not perceptibly diminished. A slight tendency to vomiting was the only unpleasant symptom which showed itself.

She was left for the night under the care of Dr. M'Givney, and I saw her again at nine o'clock the next morning. She had slept well for some hours after the operation; but about five o'clock in the morning, after an attack of vomiting, she sunk so rapidly as to become speechless and apparently dying. Wine was administered frequently in small quantities, and the patient revived. She continued improving until I saw her, when I found her apparently as well as immediately after the operation; but still complaining of occasional sickness and vomiting. After my visit, the vomiting again came on with increased violence, and continuing almost incessantly until ten o'clock, the patient expired.

Permission to examine the body could not be obtained.

This patient had previously borne a child, which had been delivered by the forceps. The cause of the difficulty could not be learned, as the labour occurred in Ireland, whence the patient had arrived within a few years.

ART. V. *Report of Meteorological observations made in the City of New-York, from May 1st, 1827, to May 1st, 1828. By order of the Medical Society of the County of New-York.* By JOHN BAXTER, M.D. &c. Secretary of the Committee.

A REGULAR journal has been kept by me since May 1st, 1827. And the following are the results of my observations.

May. The barometrical pressure varied very little during this month, for although on the first day of the month it was as low as 29 inches $\frac{4}{10}$ths, it arose next day to 29.7 which to 29.9 was the most usual height, rising but one or two days to 30.2; the average height may be stated at 29.8.

The temperature of this month was very mild, no frost occurring; the lowest temperature being 38°; the highest towards the last, 85°; difference being 47°, and medium 61°.5. From 70 to 80° was most usual at noon. For half the month the winds were East, the other W. and N.W. It rained on eight days; 2 inches $\frac{68}{100}$ths of rain having fallen, the dampness generally but small.

In June, the changes in the barometrical pressure were still less than in May, the mercury standing from 29.6 to 30.25, averaging 29.9, difference being $\frac{65}{100}$.

This was considered a cool month from the great moisture, although the thermometer was raised several times to 90 and 92°, and not falling below 45°; not quite two inches, however, of rain fell during the whole month. The winds mostly from the South. Rained on eleven days. Deaths this month 340.

July. The changes in the barometer were less than the preceding months; the lowest being 29.75, the highest 30.15, the difference $\frac{4}{10}$, and the average 29.95.

The temperature was high, rising to 100°, and falling to 60°, difference being 40°, and averaging 80°.

It rained on 9 days, 3.74 inches.

The winds were mostly from W. and N.W.

The deaths were increased this month to 576.

August. The barometer ranged from 29.6 to 30.3, making a difference of $\frac{7}{10}$ths of an inch, and an average pressure of 29.95 inches. The first week of this month was warm, and the thermometer as high as 102° on one day, but afterwards it was cool, and as low as 51° at night; thus the greatest difference was 51°, and the average 76°. Beautiful corruscations appeared in the western horizon a little after 9 o'clock in the evening, forming an arch to the east, and passing over head disappeared by 11 o'clock. Much rain fell, viz. 7.74 inches on 7 days. The winds mostly S. and E. some N.W.

September. The range of the barometer has been the same as the last. The first two weeks cool and dry; thermometer as high as 92°, and as low as 48°; difference 44°, average heat 70°; at the middle of the month a storm gave 3.3 inches of rain. Winds mostly S. and E. Deaths 426. The Aurora Borealis was seen twice this month.

October. The barometrical range still greater this month, viz. 0·9 inches, from 29.35 to 30.25, averaging 29.8 inches. The temperature the first two weeks at a stand, falling afterwards from 82° to 35°; difference 47°; average 58°; weather cloudy and overcast; rained on 10 days $6.\frac{3}{10}$ inches; very moist. Number of deaths 440.

November. The change in the barometrical pressure exceeded an inch this month, varying from 29.3 to 30.35, making the average height 29.825.

The temperature also changed very rapidly, so that it became one of the coldest months in the season; the thermometer falling to 23° from 70°, making the difference of 47°, the average being 46°.5. The quantity of rain which fell was nearly equal to that in August, viz. 7.12 inches; the wind mostly W. and N.W. Number of deaths 392.

December. The barometer fell still lower this month, to 29.25, the highest being 30.35, difference 1.10 inch, average 29.95. The thermometer fell to 14° this month from 61°, making the same difference as last month 47°; the average 37°.5. The rain which fell measured 4.3 inches. There was a vast quantity of misty and foggy weather; winds mostly from the E. and S.E.

January. The barometrical change was as great this month as the two last; viz. 1.10 inches, although the fall was not so low as the last, being to 29.4 inches, averaging 29.95. The rain which fell measured $4.\frac{2}{10}$ inches, the wind varying from all points of the compass. Deaths not ascertained. The temperature at the lowest this month being down to 9°; the highest was 59°; difference 50°; average 34°.

February. Barometrical change this month exceeded the four last months, making the difference 1.15 inches; viz. from 30.45 inches to 29.3, the average being 29.875. The temperature was also low, the highest being 66° the lowest 13°, making the greatest difference this year, viz. 53°; the average 39°.5. There was also considerable foggy weather, and a slight flurry of snow; 3.18 inches of rain fell; there were many South and East winds.

March. The change in barometrical pressure was 0.9 inches, the highest being 30.4 inches, the lowest 29.5; the average 29.96; the difference in the temperature this month was 61°, the thermometer rising from 19°, at the beginning to 80°, towards the last, the average being 49°.5; 5.04 inches of rain fell during the month. The most prevalent winds were from the S. or E.

April. The changes of the barometer was but 0.7 inches; viz. from 30.2 inches to 29.5; average 29.85. The temperature, which was between 76° and 30°, varied 46°, and the average was 53°; the winds mostly from the East; 4.42 inches of rain fell.

These observations were usually made three times a day, and the object was, with regard to the thermometer, to obtain the highest and lowest range in twenty-four hours. The time of day which is the hottest, varies according to the season; in summer, especially in the greatest heat of summer, the thermometer does not begin to decline until after 3 o'clock; in winter it will frequently decline after 12, almost always by 1, certainly by 2 o'clock. The lowest range occurs between 12 at night, and 5 in the morning, usually about 4. For obtaining these points the self-regulating thermometer is the most useful, and altogether the best kind of instrument, were it not for its great liability to get out of order, which, however, a little experience may teach how to remedy with some trouble; for instance, it having got out of order, I put it into my pocket and took it to the instrument maker's, when on looking at it to point out the difficulty I found it right, I put it into my pocket again and returned home, on my arrival I found it again deranged, when with some difficulty I repaired it myself.

The times for making the other observations have been as early as possible in the morning, at noon, and the last thing at night. I have not noticed in this report the variations of the hygrometer, because with the imperfect instrument which came into my hands, and which I retained till very lately, I soon perceived that the observations could be but little depended upon; in fact it is an instrument of very little use for ascertaining the moisture, as the number of circumvolutions of the hand could not be marked; but by an additional wheel given to it by Mr. Pike, this defect is in a great measure now removed, and more accuracy produced.

Upon reviewing the Journal for the past year, it will be seen that the quantity of rain which fell for the past ten months, ending the 1st of May, was uncommonly large; the whole quantity for the year being 53.94 inches, which exceeds the yearly mean for many years of any of the places given by Mr. Dalton, except Kendal, England, which is exactly the same. That of London for twenty years, is stated to be 20.68 inches, and Liverpool 34.11 inches, and Manchester 2 inches more; thus for this year at least our climate is not exceeded by that of England in the quantity of rain. The months in which the most have fallen were August, November, and October, in proportion of 7.74 7.12 and 6.30. And although the temperature has been no ways less than usual by the thermometer, no epidemic of any kind prevailed.

The reason of this greater moisture and rain having prevailed this past year, is not exactly apparent or accounted for. That constitution of the atmosphere which prevails in relation to heat, moisture, and winds in any region, and which is called climate, is dependent on the latitude, the situation of the place more or less elevated above the level of the sea, and its position as interior or nearer the sea. Much has been said with respect to a change which our climate has been supposed to have undergone for a number of years past, especially in point of temperature, and perhaps with considerable truth. That we are subject to great extremes, as well as a variable climate, cannot be denied, and it has justly been remarked, that New-York had the summer of Rome, and the winter of Copenhagen.

We, however, know ourselves, as well as from what our fathers have told us, that our winters have mitigated very much, and the last winter was especially marked by the entire deficiency of snow, none having fallen to lie five hours, from November to April.

In accounting for the fall of rain, Dr. Hutton, of Edinburgh, maintained that "the quantity of vapour capable of entering into the air, increases in a greater ratio than the temperature;" from whence it is inferred, that whenever two volumes of air of different temperatures are mixed together, each being previously fully saturated with vapour, a precipitation of a portion of vapour must ensue, in consequence of the mean temperature not being able to support the mean quantity of vapour; and, as according to Dr. Ure, "in a free atmosphere, the upper regions are colder in consequence of the increased capacity for heat of the air, by the diminution of the density," we may easily account for the fall of rain; but the increased quantity of vapour that must rise to cause the greater fall of rain, must be ascribed to some other cause, and this can be no other than the mitigation or more equal temperature of our winters, and this change has been very satisfactorily accounted for by the increase of our popula- to the North and West, the removal of wood, and the cultivation of lands, by which less water is locked up and for a shorter time by the frosts of winter, and thus a greater quantity of vapour is free to fall in rain. If this chain of causation be correct, there is a greater probability of the effect increasing instead of diminishing, even to the establishment of rainy seasons to endure for some time.

But another circumstance must not be overlooked as having considerable influence on this subject, viz. electricity.—Mr. Luke Howard, a scientific meteorologist of Great Britain, and who was eminent for his classification of clouds, has considered this as one of the acting causes explanatory of the fall of rain, from the opposite states of electricity possessed by clouds formed in different points of the heavens, and brought into contact with each other, when by restoring an equilibrium, a consequent precipitation follows.

That this is, however, but a secondary agent, is confirmed by a comparison made between the present season, so far as it has passed, and the former. The summer of the last year, (1827), notwithstanding the great fall of rain, was remarkable for the few manifestations of electricity by thunder and lightning, and this season, with also a large quantity of rain, we have already had powerful discharges of the electric fluid, with much thunder and vivid lightning, and Mr. Howard considers the electric effect as applicable to continued rain as to occasional showers, from the supply being continued to the clouds in proportion to the consumption, by means of evaporation which returns it during rain. Thus, then, the supply of vapour, and the establishment of a mean temperature, may be considered as necessary to produce rain, modified occasionally by discharges of electric fluid, either silently or with noise.

But whether electricity may be considered as a necessary link in the production of rain, either attended with thunder and lightning or silently, may become another question in meteorological science. A satisfactory explanation of thunder never yet has been offered to the world. The facts are every day presented to our view, but whether to ascribe them simply to the condensation of vapour, or to the combustion by means of the electric fluid of inflammable gases collected in the higher regions of the atmosphere, may admit of a doubt.

We have rain in winter without thunder, except in mild seasons, and in summer, when those phenomena most usually occur, those operations are going on which supply most abundantly the inflammable gases, and which are stopped in severe winters. In summer we frequently have rain without thunder, sometimes lightning unattended with thunder, but never thunder unaccompanied by lightning. All of which phenomena are better explained by the combustion of gases than otherwise, although the occurrence of one does not render the other altogether improbable.

Note.—Since writing the above I have seen, though how authentic I cannot pretend to say, published accounts, by which it appears that there has been an increase of moisture in Europe also, as well as in America, as the rain which fell in Great Britain in December, was unusually great. At Wigton it amounted to 4 inches; at Edinburgh 2; at Gosport 5; and at Kendal, which, according to Mr. Dalton, averaged for twenty-five years 6.084 inches, it was 10.395. In Paris, which in 1819–20 had 131 rainy days, had last year 167 days of rain and snow.

ART. VI. *An Essay on Milk-sickness.** By LUNSFORD PITTS YANDELL, M.D. of Murfreesborough, Tennessee.

IT has long been a favourite belief among medical philosophers that the pestiferous epidemics which, from time to time, have visited the earth, have afflicted the inferior order of animals as well as man; and that they have been preceded, accompanied, or succeeded, by extraordinary commotions in the planetary system. The atmosphere has been supposed to be loaded with the seeds of disease, which fixing themselves in domestic animals, in birds and in fishes, spread desolation and death over the whole face of animated nature. Credulity and superstition have doubtless had their share in creating this belief, and the influence has perhaps been exaggerated; but it is a fact that of the distempers mentioned by Homer, Thucydides, Lucretius, and Dr. Pym, a characteristic feature was, that " mules first and dogs they struck," and afterwards man himself. It is no objection to this opinion that while some species of animals languish and die, others appear to prosper and multiply as in an element peculiarly congenial. Rotation is known to be the order of nature. One race of animals perishes and vanishes away to furnish subsistence to a succeeding and different species.

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* In the first volume of this Journal, we published some notices by Drs. L. C. Beck, A. Coleman, &c. of this singular disease, which prevails in some of our western states. The paper which we now present to our readers, furnishes additional details in relation to it, of a very interesting character. It is taken from the third number of the " Transylvania Journal of Medicine and the associate sciences," an able periodical, recently started at Lexington, Kentucky.—(ED.)

The disease which it is our design to describe commences, not indeed, like the distemper of the poet, sent by the gods, upon 'mules and dogs;' but its origin is always among herbivorous animals. Man is never affected except in the second instance, and then through some of the animals which minister to his comfort.

Milk-sickness is confined, so far as we are informed, to the United States, and has not yet found a place in any system of nosology. Its character is, in fact, but imperfectly understood, and the cause from which it springs is veiled in uncertainty. Additional facts are still wanting, greater amplitude of discussion is required, to place the subject on incontestible ground. Without a hope of being able finally to settle the question, it is a sufficient apology for our taking up the subject at this time, that wherever the disease prevails it is singularly fatal, and that we hope to furnish some facts not heretofore published.

Local in its character, this disease prevails only in particular districts of country,—in regions marked by some peculiarity of feature, and generally, we think, in the vicinage of mountains or elevated land. So far as our acquaintance extends, it is limited to the middle, southern, and western states. It is to be found on the Yadkin river, in North Carolina, and in different parts of Georgia and South Carolina. Some sections of Virginia and Kentucky present it as an annual complaint. The Sequache valley, one of the most salubrious and delightful spots in our state, is subject to it. It prevails in Franklin county, in the valleys of the Cumberland mountain, and among the *Mill-stone knobs* of Sumner and Smith counties. Our remarks will be confined to the disease as it presented in the latter place, this being the source from which we have derived our principal information, referring to other places only for illustration.

The Mill-stone knobs are the termination of the hills dividing Barren from Cumberland river, among which the different branches of Goose creek take their origin. They rise two or three hundred feet above the level of the Cumberland, with sandy, sterile summits, and stretching towards the south, terminate within a few miles of the river, in a rich and beautiful country. Covered as these hills are with the profusion of grass and herbage peculiar to a fertile soil and southern sun, and from their abruptness, being sparsely populated, they are the resort of the cattle of the neighbourhood. Like most small streams in this climate, the branches of Goose creek run only in the winter and spring, and early part of summer, leaving during the hot season masses of stagnant water to the influence of the sun; and, as might be anticipated, the inhabitants are the subjects of bilious disorders. No part of our state suffers more seriously from these visitations. Annually, diarrhœa, cholera, dysentery, and fever, in all their grades and changes, are as regular in their appearance as the return of the seasons. Cases occur, upon these water-courses, which border closely upon the malignancy of yellow fever.

Milk-sickness prevails, for the most part, during the season of vegetation. The first years of our life were passed on Goose creek in the neighbourhood of the disease, and the cases which we remember to have observed, appeared during the summer. Dr. Sharpe remarks that it is most common during the months of March, April, May, September, October, and November.* Cases occasionally occur in winter, but they are rare. My father, the late Dr. Wilson Yandell, in a letter to me on the subject, remarks, "it is most prevalent, if my memory serves me, from the latter part of May till after the autumnal frosts, scarcely prevailing in winter. About the first of June, if I am not mistaken, it is worst, though very dreadful throughout the summer when cattle are permitted to run at large." Dr. Thompson, a physician of this county, of great practical skill and accuracy of observation, in a letter to me says, "the season of the year at which the disease is most prevalent, is the fall, after vegetation has been mostly killed; about the time of white frosts, and from that time till the cold of winter becomes constant. The next worst time is about the appearance of vegetation in spring; though cattle sometimes suffer if the winter is mild, after unusually warm spells, in December, January, and February." Writing from memory alone, unassisted by notes, there is a slight discrepance between the accounts of the latter gentlemen as to the season during which it is most fatal. Accident might have thrown more cases in the way of one than the other at a particular season, or cases occurring at one time might have impressed them more than others at a different time, and thus there would be a disagreement; but both of them agree with Dr. Sharpe, that the disease belongs to the period of vegetation, and of the cases on record a majority occurred in summer. Of those mentioned by Dr. Sharpe the two first appeared in June, two in May, and one in April, one only existing in winter; a chronic case, which had endured through two or three seasons.* If it is less prevalent during mid-summer and the last of the hot season, it is because cattle at this time are confined to pastures.

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* Medical Recorder, Vol. VI. p. 264.

The disease attacks alike the aged, the middle aged, and the young, and unlike most maladies, seems regardless of the partition wall which nature has erected between the different classes of animals. Cattle and sheep are continually its victims when not confined to their enclosures. Deer are often found dead among the hills where the poison is supposed to exist, and their flesh imparts disease to animals using it as nutriment. Often when pursued in the chase their strength fails, and they are taken in an unnaturally short time, owing to disease; and the experienced huntsman, under these circumstances, refuses to eat them. Wild turkeys inhabiting the Mill-stone knobs are frequently found unable to fly. Opossums, raccoons, foxes, wolves, and other wild animals of prey, are often found dead near the carcasses of cows and sheep. Buzzards and carrion crows die in immense numbers about the putrid bodies of cattle. "Nine of the cattle of Mr. Cathey," (as my father informed me) "having suddenly died of the poison, these animals were attracted in great numbers, and repairing to a branch hard by for drink, after their fatal repletion, died in such numbers that, a freshet shortly afterwards occurring, they were floated down so as to make dams across the stream." Hogs and dogs are its common victims when the bodies of poisoned animals are not burnt, or protected from them by an enclosure. A petition was presented to the last legislature of this state praying the passage of a law fining all persons who should be guilty of a neglect to burn or secure the carcasses of animals under their eye, supposed to have perished from the poison. Even poultry have been known to suffer with the disease from feeding upon poisoned animals dying within their reach; while calves, colts, and lambs are its most frequent subjects, imbibing the malady from the mother's milk.

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* Med. Record. loc. cit.

The cause of Milk-sickness.

" *Hic labor extremus*"—here we enter upon contested ground—and here, as in too many cases where medicine is concerned, we are compelled to acknowledge that the nature, and even name of the offending agent ' *atra caligine mersa.*' The opinions started on this subject are four:

1. That it is a *mineral poison*, imbibed with the drink;

2. That it is the same poison, suspended in exhalation by the sun, during the day, and deposited upon herbage, with the dew, at night;

3. That it is a species of *bilious disorder*—originating in a cause common to it and autumnul fevers;

4. That it is a *vegetable poison*, taken in by cattle with their food, and imparting its deleterious qualities to their milk and flesh. The last is the opinion which we maintain.

To the first opinion we would object, that if a spring or stream of such poisonous waters, existed any where in these hills, it must long since have been discovered by some of the many labourers who have resorted thither to procure millstones; or by persons who, in the pursuit of pleasure or business, have wandered over every part of their summits. Running as such a stream would, some distance, and mingling its waters with other streams, its deleterious qualities would become widely diffused, and in a short time generally known. Such is not the fact; no stream or fountain is suspected. And virulent as many of the mineral poisons are, and rapidly as they destroy life, we are not yet acquainted with one capable of imparting its qualities to the flesh and secretions of the animal poisoned to such a degree, as to render them detrimental to other animals using them as food. This objection applies with equal force to the second opinion; and, it may be continued, the symptoms are not precisely those which attend poisoning from any known mineral. Besides, if such an exhalation existed in this country,—as of arsenic, or any other poison—which, descending with the dews of the evening, was fixed on vegetables, man himself, from eating fruit, cabbages, &c., would become in some cases directly its victim;—a circumstance which, so far as we are informed, has never yet occurred. Cultivated pastures, in this case, would not eradicate it; a hedge or fence would not exclude it; but floating in the atmosphere, it would descend alike upon herbs surrounded by an enclosure, and those which grow in the unreclaimed woods. But it is a fact familiar to the old residents of Goose creek,—and marked because it leads to a salutary observance—that ground in which cattle contract the disease may be converted into safe pastures by sowing it in blue-grass, timothy, or clover.

The third opinion, which, of all the four, is least reconcileable to the majority of unprejudiced believers, which appears most paradoxical to those who have seen their cattle die of an anomalous disorder, and their families sicken and perish from the use of their milk or flesh, has found many ingenious and able advocates. Its fallacy will be made out by the facts adduced in support of the last opinion—that it is of vegetable origin.

The cattle of one family are permitted to frequent the woods; they return home at night, apparently in health, it may be; the members of the family partake of the milk, and are soon attacked with sickness at stomach, vomiting, and other symptoms of gastric derangement, and perhaps some individual of it perishes. The calf, meanwhile, is taken with trembling, violent thirst, and rigidity of the extremities, of which it dies. The cow, all the time, which imparted the disease may be, to all appearance in good health—an appearance which severe exercise, or simply retaining her milk, shows to be delusive. In returning home some of the cattle have perhaps died at the first stream on their way after drinking copiously; whilst others, scarcely able to reach home, manifest unequivocal symptoms of disease, teaching the family to beware of their milk.

While this is going on in one family, another, living in the same neighbourhood, inhaling the same atmosphere, drinking the same water, and faring upon the same diet, but with the precaution of confining their cattle to cultivated pastures, remains healthy. This was a circumstance of every day occurrence in the early times of Goose-creek, when the inhabitants were more in the habit than at the present day, of permitting their milk-cows to wander abroad. It is a fact of perfect notoriety, that persons living in the neighbourhood where the poison prevails, may indulge in the use of milk, butter, and fresh meat, and yet remain free from disease, provided the cattle be enclosed in clover, or other grass pastures. But if they be suffered to run at will, or even if the pasture ground be enlarged by taking in more woodland, disease and death, often are the consequence. Upon again excluding the woodland, which contained the poison, and confining the cows to the soil set with grass, health may be, as in many such instances it has been, again restored. Dr. Thompson's letter to me furnishes a case directly in point. "Robert M'Neely, his wife, and four children died within a week, under circumstances which left no doubt on the minds of any, that their death was the result of using poisoned milk. He had lived a number of years at the same place, and enjoyed good health, except that he was subject to attacks of humoral asthma. Having escaped so long he became careless, and during a busy season of hay-gathering, his cattle got out, and were not attended to for several days. The first milk taken after their return from the woods produced all the mischief. The effect followed its use almost immediately. All the family died except the two youngest children—one an infant at the breast, and they were saved with difficulty."

Is it likely that any form of disease having its origin in *malaria*, would deprive the wild turkey of its wings, and the deer and fox of the use of their limbs? Homer's disease went not so far. And even if it were a febrile disease which proved so fatal to cattle, the use of their flesh would not be detrimental to carnivorous animals; as hundreds of well authenticated cases attest the flesh of poisoned cattle to be. Calves which perished from sucking the milk of the cow have imparted disease to dogs and buzzards feeding upon their flesh.

In the early settlement of Goose-creek, when the face of the country was covered with cane and pea-vine, and there was, consequently, no scarcity of food for cattle, milk-sickness was comparatively unknown. As the country became populated and provisions grew scarce, the cows being forced to be less elective in their food, it increased to an alarming extent. But in modern times, since pastures have become more common, and the inhabitants are more in the habit of confining their stock, it is again become a rare disease. Such is not the progress of marsh miasmatic disorders in this country.

In the Sequachee valley, one of the most salubrious regions in the western country, where bilious fever is almost unknown, this disease prevails, and is contracted by cattle on the sides of the mountain. When our species become its subjects, it is from partaking of the milk or flesh of poisoned animals. This is always the case. In every instance it may be traced to the use of this class of articles. Sometimes there may be obscurity and doubt, but strict inquiry will always trace it to this origin. Mrs. Jones, of Sumner county, laboured under the complaint without knowing the source whence she derived it. Upon the suggestion of Dr. Sharpe,* the cow which afforded the family milk was suffered to go unmilked, and in a few days fell sick of the complaint and died. This is a peculiar feature of this poison, that retaining the milk in the udder causes the cow to suffer with the disease, while its regular abstraction, at short intervals, has frequently the effect of procuring her escape.

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* Med. Record. loc. cit.

Drunkards are said to be less liable to milk-sickness than persons not given to intemperance. This is not a feature of bilious disorders. Nor are its symptoms the same as those attendant upon the latter complaints. The tongue is often smooth and dry, or if coated at all, it is with a tough white mucus. No pain in the head, spine, or region of the liver attends it, and it runs its course much more rapidly than any bilious disease except cholera. It is not marked by the regular paroxysms incident to fever, but pursues a steady, uniform, unchecked course, either to dissolution or a favourable crisis.

Finally, experiments have been made, and facts are numerous, proving in the most direct manner, the conveyance of the disease from one animal to another by milk. Dr. Thompson furnishes me a strong case. "A farmer's cows, four in number, broke out of their enclosure, and were in the Millstone knobs about thirty-six hours. When driven home, some of the milk was drawn from them and set aside, that its appearance on standing might be observed; the calves were permitted to suck the rest; they were hungry, the udders of the cows full, and consequently their repletion was copious. One of the calves was taken sick while sucking and died in a few hours. All the others died in a day or two. Three of the cows died; one which was sucked by two calves, both of which died, recovered, after severe disease, in the course of which all her hair dropped off. The milk which was set by was given to several domestic animals, as cats and dogs—all of which died, if I am not mistaken; some I am confident did, and all were diseased."

It has been objected to this disease being of vegetable origin, that it prevails in winter when vegetation is destroyed; and that relapses are common in it, as well as in fevers; that some members of a family are diseased while others escape; and that communities fearing to eat milk and butter nevertheless send them to market, where they are used with impunity.

That it prevails rarely in winter we have already shown, and then it is in warm weather, when cattle may find many vegetables still verdant.

We know of no reason why relapses should not be incident to milk-sickness as well as to other inflammatory diseases. Gastritis and enteritis may be brought back when partially cured, by exposure, or imprudence in diet. It is one of the peculiar phenomena of our disease, that its subjects rarely perfectly recover, but remain, through life, feeble, incapable of severe exercise—trembling when fatigued, and subject to a recurrence of gastric derangement after exposure.

If some members of a family escape, while others suffer with the disease, it is because all are not alike exposed to the noxious cause.

Butter is doubtless often sent to market from the regions of country in which the disease prevails, but it is the product of cows which have been confined to safe pastures, and are without disease; for we will not believe that there exists in our country a community so dishonest as to send butter to their neighbours which they know to be poisonous. Cows generally manifest the disease so unequivocally, that there is little danger of using the milk, and if it is once used, and disease results, the cream is thrown away, and no butter is made from it. And as it respects unsound beef, the objection has no force; for it is a fact perfectly notorious, that animals labouring under the complaint, though it be in a latent condition, will not bear exercise. Horses apparently healthy while at rest in their pastures, become soon exhausted, manifest marks of disease, and often die, if put into harness, or under the saddle. Cattle feeding upon the knobs, in seeming health, have been frequently destroyed by the fatigue of walking home; and consequently, no diseased beef could be driven to a distant market.

What the cause of this truly anomolous malady is, in the present state of our knowledge, it is impossible to pronounce. We have tried to show that it is vegetable; and like the disease which it produces, in character it must be unique. Some writers have gone so far as to designate the vegetable; but upon what authority we do not know. We do not think that it has ever been discovered; nor is this strange, for it has never been sought after by any one possessing the requisite amount of botanical knowledge.

The symptoms of the disease in the lower order of animals are languor, great thirst, constipated bowels, universal tremors, tossing of the head from side to side, great rigidity of the muscular system; a peculiar odour of the milk, laborious respiration, the breath offensive to the bystander. In man they are analogous. After the use of milk, butter, or recently slaughtered meat, in a shorter or longer time, the individual is attracted with a distressing sense of burning in the epigastrium, followed in a few days, generally in a few hours, with vomiting. The sense of the burning is often compared by the sufferer to fire. Thirst insatiable. These symptoms are uniform, pathognomic, and continue throughout the complaint. The bowels are constipated; sometimes incorrigibly so, and when this is the case, the patient falls a victim to the disease on the third, fourth, or at farthest, the fifth day. The pulse at first natural, becomes in the sequel small, tense, vibratory, and often irregular. The epigastrium becomes tender to the touch. The skin is of irregular temperature—the body being hot, and the extremities cold. The patient is distressed with a sense of burning in the palms of the hands and soles of the feet. The tongue is clammy, and covered with a white tough mucus; or is dry, red, and shining. Great prostration attends from the beginning. No regular remissions or exacerbations—no delirium, no pain in the head or back. Drinking aggravates the nausea and other gastric symptoms. A symptom much relied on by those conversant with the disease, is an odour of the patient's breath, *sui generis*, which they cannot describe.

The symptoms of the chronic form of the complaint are a slight burning in the stomach, continued and distressing; occasional vomiting; general debility; trembling upon slight exercise; difficulty of breathing after moderate exertion; rigidity of the whole system; costive bowels; giddiness of the head; countenance sallow; intellectual dulness. This form of the disease results from a small dose of the poison, or from an imperfect cure of the acute kind.

Treatment. Venesection is not so valuable a remedy as might be anticipated, from the character of the symptoms. This is possibly owing to its not being resorted to in the first stage of the disease, since patients rarely apply for medical aid until it has made considerable progress. Opportunely had recourse to, previous to the stage of collapse, which rapidly supervenes in this disease, and while the inflammatory symptoms are yet clearly marked, it is decidedly beneficial. The pulse here, as in inflammation of the stomach from other causes, must not constitute the criterion by which we are to judge of the necessity for bleeding. We must be governed more by the state of the disease, the strength of the patient, the obstinacy of the vomiting, the pain and burning in the stomach, and the tenderness of the epigastrium.

Cathartics are esteemed by the most experienced practitioners, the sheet-anchor in this disease. Calomel is to be preferred on account of its weight, as well as its active purgative qualities. It is to be given in six or eight grain doses once in four hours, and to be assisted by stimulating enemata, until free catharsis be produced. When so fortunate as to fulfil this indication, the patient may generally be considered out of danger. The bowels must be kept soluble by castor oil, or salts and senna, until complete health is restored.

Blisters to the epigastrium are never to be neglected when the bleeding and the calomel have not the effect of allaying the vomiting. Sinapisms are also a valuable remedy. When the circulation is well balanced, the extremities being warm, cold water applied to the hands and head often produces great relief, sometimes stopping the vomiting as if by a charm. We witnessed this effect lately in an ordinary case of gastritis. The patient derived the most sensible and immediate benefit from immersing his hands in water just from the spring.

It is frequently necessary to cover the abdomen with blisters. The calomel must be used with a liberal hand till the bowels are acted on; and if ptyalism supervene, it is to be considered an auspicious omen. It is necessary to prevent the patient from taking too much drink, which should consist of cold coffee, or water off parched meal or toast-water. The preparations of opium possess no great efficacy in this complaint, aggravating in some instances, instead of allaying the nausea and vomiting. Mint-water has sometimes a good effect. Upon the whole, we would rely mainly on venesection, mercury, epispastics, and affusions of cold water upon the extremities.

The chronic form of the complaint is to be treated with calomel in minute doses, given to salivation, epispastics, castor oil, sulphur, and the alkalies. The latter class of remedies are of peculiar efficacy in this form of the disease.

The course indicated for the acute form, timeously adopted, and steadily persevered in, will generally terminate the disorder in from five to ten days; but it sometimes happens that a truce only is obtained; the patient is but partially cured, and after dragging out a miserable existence for a series of months, falls a prey at last, to the symptoms with which he was at first attacked.

Autopsical examinations have never been made on the human subject; but the symptoms of the disease in man and brutes being the same, we may infer that its ravages are likewise analogous. In post mortem examinations the stomach and first intestines of cows, have been found to bear the marks of inflammation in its various stages: they are often gangrenous and uniformly dry and hard, often as if exposed to the fire. Their contents are also dry, evidencing diminished secretion. No traces of disease have ever been observed in any other organ, except that the lungs are sometimes preternaturally engorged with blood.

ART. VII. *Case of Bronchocele successfully treated by Iodine.*

By THOMAS COCK, M.D. of New-York.

IN the autumn of 1822, my attention was called to the consideration of a case of bronchocele, on account of the favourable reports by M. Coindet of Geneva, of its treatment with the preparations of iodine. These papers were put into my hands by my friend Mr. John Griscom of this city, and some of the hydriodate of potash, then new, was also offered, provided I should wish to use it. The particulars connected with this case had almost escaped my recollection, until within a few days, when its interest was agreeably revived by a request to call and see the lady for whom I had prescribed, presenting a complete cure.

The disease was of eleven years standing when my attention was first directed to it. The left lobe of the gland was the most enlarged; it extended to the base of the lower jaw, and impeded mastication, deglutition, and occasionally respiration. The right lobe was one-third the size, and rather more dense than the left, which was uniformly soft, yielding to pressure, and having its density increased by its increasing size.

No doubt existing of its being a genuine goitre, I did not hesitate to recommend to the lady, in strong terms, to commence the use of the remedy mentioned. To her ready acquiescence and faithful perseverance in the use of the means proposed, much of the successful issue may be attributed. I first commenced with the external application of the hydriodate, in the form of an ointment, in the proportion of one drachm to the ounce. This was applied by friction, morning and evening, over the whole surface of the tumour, and was followed up for about two months, when the supply of the medicine failed. Shortly after some of the iodine was again procured, and a tincture prepared agreeably to Coindet's prescription, of which she took ten drops and increased to twelve three times a day. Such was the course of treatment pursued

It may be remarked, that in two or three weeks from its commencement, the tumour had diminished in size one-eighth of an inch, as ascertained by actual measurement. From this period it continued to diminish gradually, and the use of the remedy was persevered in for about eighteen months, without any inconvenience.* The cure was completed, without leaving a vestige of the disease, in three years and a half. It would seem that the impression made, had a uniform system of progression to its final termination. The patient's general health has been also improved, and she has less disposition to headache than formerly.

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* It was omitted for some few weeks, in consequence of an attack of remittent fever, for which her family physician prescribed, and was resumed again after her recovery.

Since the above case, two others have come under treatment, both by the internal use of the iodine and the external application of the hydriodate in the form of ointment, and a favourable impression has been made on the tumours. Their further progress will be reported hereafter.

Remarks. My observations on the use of iodine are decidedly favourable. It has great effect by external application upon lymphatic tumours, and in amenorrhœa, I am disposed to think that it is a valuable remedy. In bursal enlargements I have also reason to consider that it will be efficacious.

The above considerations are submitted in full confidence that iodine is the great remedy in goitre. It makes a powerful impression upon the system, and for this reason must be used with great discretion.

ART. VIII. *An Account of the Dengue Fever, or late epidemic of the West Indies.* By RICHARD TUITE, M.D. of New-York.

FOR the substance of the following remarks on the Dengue or Dandy fever, as it manifested itself particularly in the Havana, I am indebted to two sources of information; the one, a pamphlet written by Dr. D. Jose Antonio Bernal Munos, which was kindly presented to me by Mr. Stoughton, Spanish consul of this city; the other, a short history of its symptoms and treatment from the pen of the distinguished D. Simon Vicente de Hevia of the Havana, which may be found in the Mercurio of the 26th June. From the perusal of these documents, I shall endeavour to give a short extract, which, without entering into the details of the subject, will at least exhibit the characteristic symptoms of the disease, and point out that method of treatment which has been found most successful by the generality of practitioners.

The first notice which I received of this disease, was from a medical correspondent in the island of St. Croix, who writes me on the 25th Nov. 1827, "I can hardly hold the pen in my hand, having just recovered from a severe attack of a new fever, that made its appearance lately in St. Thomas, and is now marching through St. Croix with gigantic strides. I have no power, at present, to describe the symptoms; suffice it to say, that they comprehend most of the severest symptoms of common fever, with all the racking pains of acute rheumatism in every joint. The fever luckily does not last more than two or three days at the utmost, or it would certainly prove fatal. The whole of West-end is like one large hospital, and the physicians being nearly all attacked, there is little help to be had."

From the Virgin islands it regularly progressed westward, visiting the different islands in its course, and reached the Havana in the early part of the month of March. The disease as it manifested itself in that city, observed two distinct periods. The first, characterised by high febrile excitement and acute pain; the second, distinguished by chronic ailments and by an absence of fever. The premonitory symptoms which mark an attack of the disease are, great weight in the head, pains in the legs, and in the loins, proceeding to the arms, accompanied by general prostration of strength and mental uneasiness; the pulse is frequent and contracted: as the disease gains force, the skin becomes hot and dry, the countenance and eyes inflamed, the pain in the head increases to an acute cephalalgy, the pulse developes itself and becomes full and frequent and even hard in the more robust, with the other accompanying symptoms of inflammatory fever, which are more or less marked, according to the idiosyncrasy of the patient, or his peculiar condition when attacked by the disease. In some, the tongue was white and moist: in others, dry and inflamed: while in others again, foul in its centre, and red on its margin. In the first mentioned class, the head was rather weighty than painful; the urine clear and without deposit: in the second, the pain in the head was acute, and the eyes resisted the impression of the light, the urine high coloured: in the third class, although the pain and weight of the head was more supportable, it was however accompanied by vertigo and fainting; the urine was not inflamed, but turbid.

It is remarked by Dr. Hevia, that those who were labouring under the effect of chronic diseases at the time they were attacked by the Dengue, felt an increase of all the symptoms of the previous disease; but by way of compensation, sometimes found themselves happily rid of their complaints with the termination of the Dengue. It is a striking peculiarity of this fever, that there was little or no thirst during its continuance; so much so, that the physicians were obliged to force their patients to accept even of the most agreeable draughts.

The symptoms which we have described continued to increase in force, and reached their crises, within the first twenty-four hours: a perspiration then ensued, and as it flowed, the disease gradually diminished during the second twenty-four hours, so that on the third day the patient was left without fever, but still subject to those chronic ailments which marked the commencement of its second period.

In the second period, there was an absence of fever; inappetency, vitiated taste, the mouth bitter, the head light and subject to vertigo in the more debilitated; muscular prostration, pains in the joints, nervous contractions, swellings of the extremities, infarction of the lymphatic glands of the neck, axillæ, and groin. Thus we see that the disease evidently commences its attack on the nervous and muscular systems; the sanguineous system then becomes sympathetically affected, producing fever and its attending symptoms, and if the disease does not terminate by abundant perspiration or a copious flow of urine, the symptoms of the second period then supervene. It is classed by Dr. Bernal Muños among the *mucous* or *lymphatic* fevers of the ancients, or the Adeno-miengeal fevers of the moderns.

As to its diagnosis, it is remarked by the same gentleman, that the appearance which the Dengue first assumed, was so similar to that of the yellow fever, that had he not been aware of the fact, that those who laboured under it were natives or acclimated, he himself could not have distinguished the two diseases. Its prognosis is very favourable. Out of 2500 men who were treated for this disease in the military hospitals of the Havana, not one died. It has, however, in some cases left very distressing chronic complaints in the subjects of its attack, and which have persisted for many months.

Dr. Bernal Muños enters into the investigation of the causes of this disease with much sagacity and spirit, and in opposition to the skeptic who doubts when he wills, affirms that there are well ascertained facts in medicine, and that there are principles sufficiently well confirmed, both by observation and experiment, to supply the just and reasonable scrutiny of the candid investigator of truth. The days are now past when the physician, poor in knowledge as he was rich in conjecture, wandered beyond the rational limits of investigation to discover in the supposed acrimony, acidity, fermentation, or dissolution of the humours, the causes of those diseases which, thanks to the advancement of a more rational physiology, we are now enabled to trace to the effects of those agents with which we stand in immediate relation.

It is in a dry and heated atmosphere, in the exhalations and dust of the earth, mental agitation, active bodily exercise, continued for some time; in the impressions of cold, and in the freshness of the breezes which prevailed every night at that period, that he discovers the remote or occasional causes of the disease. Its proximate cause is a dry and rough skin, whose stricture, by suppressing the perspiration, propels the fluids to the cavities and central organs. And it may be remarked, that to the unequal and morbid play between the functions of the skin, and of the internal mucous membranes, may be attributed the greater proportion of the diseases of warm climates.

From the method of treatment may be derived a strong confirmation of the truth of these remarks; where it may be observed, that a greater proportion of the sick were cured by observing diet, using partial baths of the feet and arms, sinapisms, laxatives, glysters, and diluents, without the administration of any medicine. Topical bleeding was seldom found necessary — general bleeding never; on the contrary, its effects were always prejudicial, if not fatal. The reader would perhaps be astonished were I to assert, that with a treatment equally mild, a great proportion of those labouring under the yellow fever might be cured, and that with the exception of leeching, which I found extremely beneficial in this disease, I was never in the habit of using more active remedies than those here prescribed for the first period of the Dengue, and that with success.

But what will they say, who have advocated the necessity of general bleeding, the administration of repeated purgatives and diaphoretics, the use of mercurials administered both internally as well as externally, with the view of producing ptyalism, and such like stimulants?—they may perhaps smile; but my assertion still remains good, and its truth has been sufficiently confirmed within the last three years by the ample experience of the most enlightened practitioners of the Havana. Under their hands the yellow fever has become a disease comparatively tractable, and no longer looked upon as almost necessarily fatal. And be it said to the honour of the founder of the physiological doctrine of medicine, that this amelioration in the treatment of this disease, is in a great measure to be attributed to the sounder and juster views of the animal economy which this doctrine has inspired.

But to return to the Dengue: the treatment in the second period of the disease, consists in oily and opiate frictions, applied to the painful parts, rendered more or less stimulant; anodyne cataplasms, fomentations, and lotions of the same class, and emollients; slight doses of magnesia when the tongue was foul, or the mouth bitter; slight bitters when the tongue was clean, and the patient without appetite; warm clothing; general baths and emollients when the pains were acute and the rigidity of the limbs considerable; alkaline and resolving unctions when the pains were dull and the swellings of the articulations œdematous; salt baths when the patient was debilitated and his limbs swollen; slight diaphoretics and mild sudorifics opportunely administered. Such were the remedies which were prescribed in this period of the disease, according to the particular circumstances of the patient.

I cannot conclude this slight and partial account of the Dengue without paying a just and merited tribute of respect to the distinguished merit of the excellent professors of medicine whose writings have furnished the materials of these observations; nor can I too much admire the virtue and wisdom of the medical gentlemen of the Havana, who like good watchmen, faithful guardians of the public health, on the approach of this epidemic, assembled a council of their brethren to deliberate on the best means of obviating its ravages, and of divesting it of its terrors.

ART. IX. *An Account of the origin of the Law, "to incorporate Medical Societies for the purpose of regulating the Practice of Physic and Surgery in this State;" passed 4th April,* 1806.[*] By JOHN STEARNS, M.D. of New-York.

THE influence which Medical Societies have had upon the profession, and the general misapprehension of their origin, impart to this topic an interest which I trust will not be deemed inappropriate. This interest is enhanced by the consideration, that the time will soon elapse when those who were concerned in originating this law will have passed the confines of time, without having left a single record of the fact, by which the numerous errors which have obtained publicity in our scientific journals might be corrected, and justice rendered to whom it is due.

From these publications, I shall select the following paragraph from a biographical notice of Dr. Bruce, in the first volume of Silliman's Journal of Science—"Previous to the year 1805, the practice of physic in the state of New-York was regulated by no public authority, and of course, was not in the happiest condition to promote the respectability and usefulness of the profession. To remove as far as possible the existing circumstances, Dr. Bruce became an active agent, and in conjunction with Dr. Romayne and other medical gentlemen of New-York, succeeded in establishing the state and county medical societies, under the sanction of the legislature. This act may be considered among the first efforts made in this country to reduce medicine to a regular science, by investing the privileges of medical men in the body of the members of the profession."—The President of the New-York county medical society, in his inaugural address for 1824, also states, "that this is the parent society, from which the other institutions of a similar character throughout the state have emanated."

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[*] With much pleasure we publish this, we believe, only authentic account of the origin of our Medical Societies. It deserves to be recorded as the commencement of a system which has done more than any thing else to elevate the character and general respectability of the medical profession of this State.—ED.

Without multiplying similar quotations to evince the error of public opinion, I take this occasion explicitly to state, that neither Dr. Bruce nor Dr. Romayne, nor this "medical society," nor any physician then resident in the city of New-York, had any knowledge of the preliminary measures which led to the formation of this law, or the most remote agency in procuring its passage through the legislature. These measures were commenced exclusively in the county of Saratoga, with a view to reclaim the profession from that degradation and contempt to which it had been reduced by ignorance, professional broils, and the grossest empiricism.

Those who witnessed the original and progressive settlement of the northern and western sections of this state since the year 1790, will recognise the mania that infatuated the emigrants from the east, and the ambitious projects formed by those who assumed the title of doctor. Many who had never read a volume in medicine, were suddenly introduced to an extensive practice and to a reputation of such imposing authority, as to control the opinions of their superiors in science, and to prescribe rules of practice for their government. Consultations were generally distinguished for gross controversies at the bed-side of the patient, whose health and life were often immolated to the ignorance, prejudices, or discordant theories of the contending physicians. Their skill was generally graduated by their ability to magnify the cures they had made. Gratifying indeed would it be, at this enlightened period, to be able to bear testimony to the total extinction of this relic of quackery, and to the abolition of that still more ridiculous and growing imposture, that indignity of our profession, which by the sign of a common vender, converts the medical office, designed for the cure of all diseases, into a private infirmary for curing those only which belong to a particular organ. But so great has been the change in public opinion, that empirics now seldom boast of their intuitive knowledge, their magic incantations, or their initiation into the mysteries of Indian practice; but are compelled to assume the appearance of learning, and to affix to their names the fictitious appendage of M.D.—a proof that scientific physicians will always be patronized as the public mind becomes enlightened. The ignorance of the practitioners had so obscured the science of medicine at the period referred to, that reflecting physicians united in the necessity of adopting vigorous measures for a radical reform.

In 1796 a series of numbers were accordingly published in the newspapers of Saratoga, which directed the attention of the profession to the subject of instituting medical societies, and ultimately led to the formation of a society in that county, consisting of twenty-one physicians. But so discordant were its materials, and so incompetent to sustain the character of a scientific institution, that the year of its formation became the period of its dissolution. This want of success did not prevent the renewal of future efforts.

In November 1805, another meeting was held, at which committees were appointed, and a resolution passed to invite the co-operation of the physicians of the adjoining counties of Washington and Montgomery. The following is a copy of the printed circular issued on that occasion.

" *Ballston, November* 7, 1805.

" SIR,—At a meeting of physicians of the county of Saratoga, convened this day at the court-house in Ballston, for the purpose of devising means to improve the practice of medicine, we were appointed a committee to impart the object and wishes of that meeting to our professional brethren in the counties of Washington and Montgomery. In that capacity, we beg leave to recommend to your earnest attention the necessity of adopting some vigorous measures for the suppression of empiricism, and the encouragement of regular practitioners. The evil calls loudly for the united efforts of all who sincerely wish to remove from that valuable science, the imputation of quackery; under which, from the ignorance of some of its professors, it not unjustly labours. The wish of the meeting is, to procure from the legislature of the state their sanction to a medical society; and we request your attendance at the court-house in Ballston, on the 16th of January 1806, at ten o'clock, A. M. either in person or by a committee of your county, for the purpose of adopting the best means for obtaining an act of incorporation.

" We remain, &c.

" WM. PATRICK,
JOHN STEARNS,
GRANT POWELL,
Committee of Correspondence."

Pursuant to the notice in this circular, a delegation from these counties attended the adjourned meeting at the same place, on the 16th of January 1806. A memorial to the legislature was then reported, adopted, and signed, and a committee of three, consisting of Dr. Asa Fitch of Washington, Dr. John Stearns of Saratoga, and Dr. Alexander Sheldon of Montgomery, were appointed to carry the same into effect.

The committee from Saratoga and Montgomery attended the ensuing session of the legislature, and fortunately for the cause of science, the latter gentleman, Dr. Alexander Sheldon, was elected speaker of the house. Although the meeting at Saratoga did not contemplate the extension of the law beyond the limits of these three counties, the committee assumed the responsibility of making it general, and of extending its privileges to every county in the state.

Accompanied with this explanatory view of the subject, they presented the memorial to the house of assembly on the 25th of February 1806, who referred it to a committee, consisting of William Livingston and Isaac Sargeant of Washington, Gurdon Huntington of Otsego, John Ely of Green, and Joel Frost of West Chester. The majority of this committee being medical men, favourably received the proposed plan for a general law to extend the act of incorporation through the state, which they finally matured and reported to the house. The powerful opposition to this bill threatened its early and prompt rejection by a large majority. The speaker, the committee, and several other members gave it a very able and vigorous support. But notwithstanding all the exertions and political influence of its friends, the danger to which the tranquillity of the state would be exposed by the incorporation of forty distinct associations of physicians, was so magnified by the opposition, and the impression thereby made upon the house was so great, that but feeble hopes were entertained of its success.

At this critical juncture, when a decisive vote against the bill was every moment expected to be taken, the late honourable William W. Van Ness rose its most eloquent and powerful advocate. And perhaps the pre-eminent powers of his parliamentary eloquence were never exerted with better effect. He refuted the arguments of the opposition; portrayed the benefits to the profession and to the public in such glowing colours, and with so much energy and zeal, that the opposition became feeble, the friends to the bill increased, and from that moment the successful issue was rendered certain. To his memory do the profession owe a monument of marble, with their gratitude deeply engraven upon its tablet.

On the first Tuesday of July 1806, three months after the passage of the law, about twenty societies were organised pursuant to its provisions, and within two years scarcely a county in the state, of any considerable population, was without a duly organised medical society.

REVIEW.

Art. I. *A Compendious System of Midwifery, chiefly designed to facilitate the inquiries of those who may be pursuing this branch of study. Illustrated by occasional Cases, with many engravings. 3d edition, with additions and additional plates.* By William P. Dewees, M.D. Adjunct Professor of Midwifery in the University of Pennsylvania; member of the American Philosophical Society, &c. 8vo. pp. 644. Philadelphia, 1828.

The popularity of this work is evinced by its arriving at a third edition in four years. In a former volume we mentioned its first appearance, and ventured to express that opinion of its merits, which has been sanctioned by the public. The present publication is improved in many respects, and we particularly notice it at this time, for the copious observations it contains on those points of medical jurisprudence which relate to Midwifery. The introduction of this subject in a broad and prominent manner in an elementary work, is thus defended by Professor Dewees:

> "In treating of subjects which have a relation to medical jurisprudence, it may be thought by some, I have rather wandered from the strict path which my professed objects point out. But in this I do not agree. First, because I do not meddle with any subject of a medico-legal kind that has not an intimate, and perhaps an entire connexion, with midwifery. Second, because on the intimate knowledge of this branch, some of the most important testimony almost exclusively depends. Third, some of the most frequent, as well as interesting objects of medical jurisprudence, as infanticide, supposed pregnancy, supposed delivery, rape, &c. are dependent almost altogether upon the evidence of the accoucheur. Fifth, because there are points in each of the cases above mentioned, which can only be eluci-

> dated by the experienced practitioner in midwifery. Sixthly, because there is much ignorance as well as discrepancy betrayed in the testimony of physicians who may practise, (and even extensively this branch) when called into a court of justice, from the want of knowledge of the subjects at which we have glanced, rather than professedly treated." p. 98.

Omitting an analysis of those chapters which were formerly noticed, we propose confining ourselves to such as particularly refer to the science in question.

Chap. VII. *On the Developement of the Fœtus.*—The summary given by Dr. Beck in his Elements of Medical Jurisprudence, as to the gradual increase of the fœtus,—and its weight and length at the full time, is extracted by Dr. Dewees. He corroborates the opinion of Dr. Willoughby and others in this country, that the average weight of children born in the United States exceeds seven pounds.

The observations made in Great Britain would lead us to believe, that it is comparatively rare in that country, to meet with children weighing more than twelve pounds. Our author remarks,

> "In this country, as far as our experience goes, it is not unfrequently met with, if comparisons by the eye do not greatly deceive us. I delivered one woman of three children (at three different births and males,) all of which appeared of the same size at birth; and from the very large size of the one I first delivered her of, I prevailed upon the parents to permit me to weigh it—it weighed, without clothing, fifteen pounds and a half—the two others were not weighed—but appeared to be of equal bulk. I have met with two ascertained cases of fifteen pounds, and several I believed to be of equal weight."

The variety that occurs both in length and weight, as well as other marks of developement, is ascribed by our author, to a variety of contingencies in the progress of the fœtus from the germinal to the fully expanded state. As a result from this, the laws of developement may be imperfectly, or irregularly—too slowly or too rapidly performed. If the former—the fœtus may be defective in some parts, or natural excessive in other portions of its body. If the latter—that is, too slowly or too rapidly, it will exhibit either marks of immaturity or excessive though perfect size of all its members. The application of this distinction, in medico-legal cases, is deemed by our author of great importance.

> "It is of great consequence sometimes to decide, between *immaturity* of developement and the *imperfection* of developement of the fœtus; the first has relation to the time it may have tarried in the uterus, while the second is dependent upon the manner in which developement has proceeded or been performed." Page 91.

Difficulties may also arise in cases where the developement is performed too rapidly or excessively.

The following cases are given as illustrative of the above distinctions.

> "In November 1810, I was called to attend a female in labour with her first child. The woman had been very suddenly attacked with severe pains, in consequence as was supposed of great agitation of mind. On examination, I found the uterus was not completely developed; as a portion of the neck was still to be felt. I inquired of the patient, whether she thought herself at her full period; she answered, no: she was but seven months gone. After several hours severe suffering, she was delivered of a large boy; at least large for seven months. I however made no observations upon the case at the moment, as I was an entire stranger to the circumstances of my patient; though its size was remarked upon by an old woman, mother of the husband, who said, it was the finest seven months child she had ever seen. It is certain the child bore every mark of greater maturity than is usual with children born at the seventh month of utero-gestation.
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> "Some months after this period, I was called upon and examined before a magistrate and two lawyers, as a preliminary step to a suit for divorce, which it was intended should be sued for by the husband of my patient, if certain opinions derived from me, were favourable to such an undertaking.
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> "The following circumstances were alleged on the part of the intended prosecution before the magistrate and two lawyers; 1st. That at the period of the birth of the child, but seven months had elapsed since the marriage of the parties. 2d. And at the time of the marriage, the husband had been from sea but two days, and this after an absence of some months. 3d. That at the end of seven months, the wife was delivered of a full grown child. It was therefore declared, that the wife was pregnant before marriage; and that not by her husband; a bill of divorce was therefore intended to be prayed for.

" On the part of the wife, it was proved she had sustained an irreproachable character; that she was an industrious domestic woman; not visited or known to associate with any man in particular; that she had during the whole time lived with the mother of her husband, and that she had had her menstrual period but a few days before her marriage, and that she had not had them since her marriage.

" My evidence went to say, that at the period of labour the neck of the uterus was developed more than was usual at the seventh month, but was not effaced; which gave rise on my part to the question as above stated, whether the patient thought herself at her full term, and which drew from her the answer, that " she was but seven months advanced in her pregnancy;" and that my opinion and belief was, that she was not in error as regarded her calculation; though the child was very considerably larger than is usual at the seventh month. That violent mental excitement was very frequently a cause of abortion and of premature delivery; and it had been proved, that this woman had experienced great mental anxiety, as well as felt great anger the day previous to her feeling any thing like the pains of labour; and that this mental agitation might have occasioned the premature delivery.

" That the developement of the fœtus is by no means regular; that it is notorious, that some women bear much larger children than others; that the average weight of a newly-born child is fixed in this country, at between seven and eight pounds; now it must be evident from an average being taken, that there must necessarily be many children whose weight must exceed the stipulated weight or average, and many others fall beneath it. And though it was my belief that the weight of the child in question, was nearly equal to the average proportion, but that this in itself did not by any means prove it had arrived at full time; as all such children whose respective weights may exceed the average, and particularly those who may weigh from twelve to fifteen pounds at birth, (a thing not very unusual) must necessarily have weighed more than the average at seven months; and consequently, the weight of the child cannot mark the period of gestation with so much precision as to render it free from all error.

" That the fact just stated, must strike every body as an irresistible truth; and consequently, that this might have happened in the case in question; or in other words, as it is indisputable that many children at birth exceed the average weight; it must follow, that the lesser weight must be attained before the greater; and that in cases of excessively large children, six or seven pounds would not be an extravagant weight for a child at seven months, that would weigh nearly double, if carried to the full period of utero-gestation; and that there could be no possible reason assigned, why this might not have happened in the case in question.

The husband was so entirely satisfied of this possibility, that he abandoned all farther intention of a prosecution." pp. 95, 96, 97.

On the other hand, it now and then occurs, that the increase of the fœtus has not kept pace with the period of utero-gestation. The following instance, says Dr. D. fell under his own observation, and he adds, " there could have been no possible error in the calculation, if any reliance can be put upon human asseveration."

> " Mrs. —— was taken in labour at the end of the seventh month of gestation, and was speedily delivered of a fœtus of about five inches in length,—and which would probably have weighed three ounces. It breathed very imperfectly a few minutes, and then died. Upon my declaring to my patient, that she had made a great mistake in her calculation, as the child at farthest could not be more than five months, she said that it was impossible from circumstances that any error could exist, and that she was every way certain, it must be full seven months. Presuming what might be the circumstances alluded to, I inquired of the husband, whether my conjecture relative to them (namely, that no intercourse had taken place for that length of time) was correct; he assured me they were, as the health of his wife had so rapidly declined at that time, as to prevent any union from taking place.
>
> " Again, we are intimately acquainted with a lady (whom we have delivered of nine children, at full term) who never has produced a child that would have weighed at birth, five pounds. Yet this lady enjoyed an uninterrupted state of health, made an excellent nurse, and at the end of a year, her children were as large and as healthy as children usually are at this period. This lady was subject to no disease during gestation—she was even exempt from both nausea and vomiting." Page 98.

The uncertainty which obviously follows from the opinions and cases of Dr. Dewees renders a closer examination of the subject necessary on the part of the medical-jurist. We apprehend that in contested cases, no special reliance is placed on the length and weight, although these of course require to be noticed. There are other data, founded on a surer basis, to guide and enlighten the inquirer. It may be useful to some of our readers briefly to notice these—at least such as are not yet included in the systematic works on Medical Jurisprudence. But before doing this, we may state additional results obtained in some foreign hospitals, concerning the length and weight of the fœtus at the full time. We collect them from various journals and systematic works.

In the Lying-in-Hospital at Florence, 500 women were delivered during eight years (from 1816 to 1824). The births were 506 in number. The heaviest infant weighed sixteen pounds (the Tuscan weight of twelve ounces) four ounces. The smallest born at the full period, five pounds—the majority weighed about ten pounds. The greatest length was 20 inches, the least 15, and the average length from 17 to 18 inches.*

In the Obstetrical Institution of Paria, during the scholastic year of 1820–1, there were 48 births. The greatest length was 21 inches, 3 lines; the least 15 inches, 9 lines. The greatest weight 12 pounds, and the least 7 pounds. During the year 1823–4, there were 68 births. The greatest weight was 14 pounds, six ounces; the least five pounds. The greatest length was 21 inches; the least 15½ inches †

The results obtained by Chaussier in his extensive researches, and also those procured from the *Hospital de la Maternité* at Paris, show that the average weight of the fœtus at the full time, is about 6¼ pounds. The extremes vary from 3 pounds to 10½ pounds. The mean length deduced in a similar manner, is 18 inches; while the extremes vary from 13 to 23 inches.‡

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* Anderson's Quarterly Journal of the Medical Sciences, vol. ii. p. 101.

† Quarterly J. of Foreign Medicine, vol. v. 330, and Anderson's Journal, vol. ii. page 100.

‡ Lecieux. Considerations sur l'Infanticide, p. 9, 12. Dr. Dewees mentions that he once delivered a child which measured twenty-seven inches in length. We observe that our author (page 93) doubts the correctness of the length and weight given by Dr. Beck for a fœtus at five months. He considers it excessive, and states that according to Dr. Hamilton's and his own frequent observation, " it measures not more than from six to seven inches, and weighs but a few ounces." We of course place full credence in the correctness of this statement—all we wish to show is, that the general average (for it must necessarily be only such) is conformable to the experience of European observers. We will only adduce two authorities in addition to those given in the work referred to. Orfila in his *Lecons de Medécine Légale*, (vol. i. p. 47) says, " A cinq mois la longueur du fœtus est de neuf à dix pouces; son poids d'enirron une

Among the positive marks of maturity or immaturity, we should place the greatest reliance on the one pointed out by Chaussier. If in a well proportioned adult (he observes) a line be drawn from the top of the head to the heel, its centre corresponds with the upper edge of the pubis. But in the fœtus, this point is situated much higher; for in a ripe child, it corresponds with the umbilicus, or a little above it—at the end of the eighth month, it is two or three centimetres higher (about an inch)—at the end of the seventh month, it is still nearer the sternum, and at the end of the sixth month, it falls just on the edge of the bone.

To this, the proportionate length of the various parts of the child—the state of the skin and its appendages—the presence or absence of the membrana pupillaris, although doubts have been thrown on this last as a proof of immaturity by the late observations of Dr. Jacob, and the proportions between the spine and the skeleton, as observed by M. Beclard must be added.

All these, it will be seen, may be investigated on the living fœtus. If death however should have occurred, additional examinations may be made. The earlier periods of conception have been minutely investigated by Dr. Pockels of Brunswick, in his "Contributions to the history of the developement of the human embryo in the first three weeks after conception."* The Wennels have noticed the increase of the brain and the proportion, at various periods, between

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livre." Lecieux (page 12) remarks, that from a great number of observations made at the Hospital de la Maternité at Paris, the ordinary length of the fœtus at the fifth month is estimated at nine and a half inches. Dr. Gordon (article "*Anatomy*" in the Supplement to the Encyclop. Brittanica) mentions a fœtus which, at the end of the fifth month, measured ten inches. He however quotes Mr. Burns of Glasgow, as saying that in the fifth month, it is only about six or seven inches long. The length mentioned in the "Elements of M. J." is from seven to nine inches, and the weight nine or ten ounces.

* A notice of this work may be found in the Medico-Chirurgical Review, vol. viii. p. 575.

the cerebrum and cerebellum.* While Tiedemann and Serres have particularly examined the developement of the various portions of the brain.† Lastly, the researches of Beclard as to the progress of ossification in the vertebræ, complete the catalogue of anatomical proofs, to which reference may be had for the solution of doubts. That they are infallible, need not be urged. They are results deduced from numerous investigations. Their validity remains unimpeached, until overturned by an equal number of opposing facts.

Chap. X. *Of the term of Utero Gestation.*—On this, Dr. Dewees professes a change of opinion : "We were at one period opposed to the doctrine of protracted gestation, for we had adopted that of the immutable nature of this operation, as regarded duration. But the case already referred to, convinced us that the period of nine calendar months could certainly be exceeded by thirteen days. This led us to a more careful investigation of the subject, and this has resulted in the entire belief, that the commonly fixed period may be extended from thirteen days to six weeks, under the influence of certain cases or peculiarities of constitution." p. 138.

The case to which our author refers is the following. The husband of a lady, who was obliged to absent himself many months, in consequence of the embarassment of his affairs, returned one night clandestinely; his visit being only known to his wife, her mother, and myself. The consequence of this visit was, the impregnation of his wife. The lady was at this time within a week of her menstrual period, and as this did not fail to take place, she was led to hope that she had not suffered by the visit of her husband. But her catamenia not appearing at the next period, gave rise to a fear she had not escaped, and the birth of a child, nine months and thirteen days from the night of this clandestine visit, proved her apprehension to be well grounded.

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e Lawrence's Lectures. *English edit.* p. 170.

linburgh Med. and Surg. Journal, vol. xxiii. p. 81.

"I have had every evidence (he adds) this side of absolute proof, that gestation has been prolonged ten calendar months, as an habitual arrangement in at least four females, that is, each of these women went one month longer than the calculations made, from an allowance of ten or twelve days after the cessation of the last menstrual period, and from the quickening, which was fixed at four months."

"Besides, a case within a short period has occurred in this city, where the lady was not delivered for full ten months after the departure of her husband for Europe. Yet so well and so justly too did this lady stand in public estimation, that there did not attach the slightest suspicion of a sinister cause." p. 130.

Such are the proofs that have come under Dr. Dewees own notice, in favour of protracted gestation. The term of utero-gestation in the first case may have been 286 days—not 41 weeks, and of the four next, 43½ weeks.

It is not our intention to enter into a lengthened discussion on this much-contested subject. It will be observed, that the experience of our author coincides with that of Dr Samuel Merriman, as given in a former number (p. 304 of the present volume.) The latter, indeed, mentions cases where, in his opinion, gestation was protracted to the 309th day (44 weeks.) So also did Drs. Hopkins and Porrer, in their testimony on the Gardiner Peerage Case. We beg our readers to remark, that this is the extreme which practitioners in extensive practice in this country and Europe, state from *their personal experience.**

Dr. Dewees candidly allows, that as there is no certain mark to detect the instant when conception takes place, so we cannot ascertain, with absolute precision, the exact quantity of time that the fœtus remains in utero. The cessation of the menses and quickening—though the most common evidences to calculate from, are necessarily subject to variation. Conception may occur at any time during the interval, while quickening happens at various periods of gestation. He concludes with justice, that in most cases a latitude of two or three weeks must be permitted.

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* Dr. Merriman, however, mentions a case of 323 days from the day of catamenial intermission, but he does not rely on it as a satisfactory example. His third instance of suppressed menses in April 1823, and delivery in September 1824, will hardly be urged in this discussion. We must, in passing, remind our readers that all Dr. Merriman's calculations commence from the day succeeding the last catamenial discharge.

Had our author rested here, we might have contented ourselves with the above statement, and left his facts to have the consideration they undoubtedly deserve. But with somewhat of the ardour of a convert, he proceeds farther. After censuring Dr. Beck, for his levity and incredulity on this subject; he quotes several cases from his work, and in particular, refers to that of Bartholin. The facts are simply the following. A girl complained that she had been seduced by a rich young man. She was confined and strictly watched in a *maison du force*, by order of the magistrate, and at the end of sixteen months, she was delivered of a boy. This brief narrative is quoted from Foderè, and of it Dr. Dewees remarks, that it is "*particularly in point, and well worthy of consideration.*" We too think it worthy of consideration; but as we have not been able to examine the original author—Bartholin—and above all, as we are not satisfied that the guard was incorruptible, we place it among the "*medical facts,*" which Dr. Cullen once characterized.

Two quoted cases are dwelt upon at large by our author as confirming and illustrating the doctrine of protracted gestation to an indefinite limit. They deserve analysis.

A woman aged 27 years, greatly emaciated and weak, had all the symptoms of pregnancy, in October 1820. About the middle of the fifth month, she began to feel the motions of the child, and at the end of the ninth felt the precursory pains of labour. A surgeon who was called, found the pains weak, and the os uteri not much dilated, though sufficiently so to allow him to feel that the vertex presented. In consequence of the extreme weakness of the patient, she was treated with permanent and diffusible stimuli, and with so much advantage, that at the end of six weeks, she had regained the appearance of health, and had returned to her ordinary occupations.

A few days after the coming on of the pains, the motions of the child became weaker and eventually ceased. The size of the abdomen diminished, and the child appeared turned to the left side. *The menses appeared in the tenth month, and returned regularly afterwards.* In December 1821, Mr. Penker was called in consultation and advised forcible delivery, which was not consented to. In October 1822, he found the os uteri above the symphysis pubis, inclined obliquely half an inch to the right side, with the fundus to the left. The posterior surface of the uterus had descended so low in the pelvis, as not to be more than an inch and a half from the orifice of the vagina, and was not thicker than a double sheet of paper. The back and feet of the child could be felt through the abdomen. Such was the state of the patient in March 1823, up to which time she refused to submit to any operation. The narrator of this case promises the sequel at some future period.

The other instance is quoted from the 14th volume of the *New-England Journal.* A female, aged 29 years, became pregnant about the 1st of April, 1822. She was much afflicted during gestation, with spasms of the stomach and vomiting. She quickened at about the fourth month. After this, her spasms were less severe, but pains in the hips, loins, and back supervened. About two weeks before the expected period of labour, she was attacked with its usual symptoms. These continued for ten hours and then subsided, and from that time no motion of the child was felt. On the first of March, 1823, she was attacked with phlegmasia dolens in one limb. The disease having left this, soon seized upon the other. During the first and second week of this attack, she had a discharge from the vagina, resembling the catamenia. At times this was fœtid, the os uteri was closed, and no portion of the child could be felt. She gradually recovered, and the tumefaction of the abdomen somewhat subsided. In June, she had the catamenia—further subsidence of the abdomen.

About two weeks after the supposed death of the child, milk was secreted and continued in small quantities until October. She remained in her usal state until April, 1824, when she was attacked with pain, vomiting, cough, &c. which continued until her death on the 24th of May.

On opening the abdomen, the uterus was discovered to be much thickened, and presented the appearance of having been inflamed and to have suppurated. It adhered closely to all the surrounding parts and organs. Anteriorly it was united intimately with the peritoneum, and in this way with the abdominal parietes. An incision was made through the anterior face of the uterus, and a full grown fœtus was discovered.

These cases are deemed by our author identical—and he considers the first as unquestionably a case of uterine gestation. They prove, he observes, that the uterus may remain quiescent for a long period after the termination of the ninth month. Allowing the correctness of these deductions, what is their amount? *That the uterus may become diseased, and thus prevent the expulsion of the fœtus.* So too, cases have occurred of sickness and death of the mother at and subsequent to the full period, and the child remained unborn. But neither of these apply to the question before us—namely, the time at which in the state of the *ordinary health of pregnant women,* labour takes place. Certainly a state of disease, so marked as in the last case, proving high inflammation and suppuration to have been present, must have impaired the ordinary functions of the uterus. Can it be correct reasoning to apply the result of these instances to a process which is ordinarily performed under circumstances of general health?

Medical jurists are principally interested with reference to the subject of protracted gestation, in bringing it down to its smallest possible limits—provided any limits at all exist. We take it for granted that they do, and we had hoped that those given by its advocates on the Gardiner Peerage cause, were sufficient for explaining the most extraordinary cases that occur in the present age. ELEVEN CALENDAR MONTHS will not, indeed, include the twelve months—the fourteen months, or the sixteen months' cases of the 15th, 16th, and 17th centuries in continental Europe, but they would have sufficed to make Henry Fenton Jadis the heir of the title and estates of the insulted and outraged Lord Gardiner.

Chap. XLII. *Uncertainty of the Child's Death.*—On this point Dr. Dewees is extremely brief, and appears to consider all the signs enumerated as very uncertain proofs of death. There are several cases in which it may be very necessary to understand them, and decide accordingly. To aid in promoting information, we give the view of Dr. Blundell, one of the most eminent lecturers on Midwifery in London. They are taken from one of his lectures as reported in No. 245 of the Lancet.

"When instruments become necessary, the perforator more especially, it is always desirable to know whether the fœtus be or not alive, and we will therefore proceed to remark a little on the diagnostics by which this point is decided.

"You will sometimes find in labours, that the cuticle is coming away from the head in large flakes, an occurrence, however, by no means frequent, or if frequent, not, I think, often observed. Now, if you perceive the cuticle separating from the scalp in the same manner as it desquamates from dead bodies in the dissecting room, you may always suspect that the fœtal vitality is extinct. Though the desquamation of the cuticle, however, is a strong presumptive argument in affirmation of the death of the fœtus, it certainly is not demonstrative; for cases have been related, and, among the rest, one by Dr. Orme, in which the cuticle has separated in consequence of cutaneous disease, the children being alive notwithstanding; so rare, however, are these cases, that I should feel disposed in practice to look on them as of no account, were it not that human life is at stake. Again, when the child is dead, I find in general that this may, after a time, be ascertained by the dislocation of the bones of the cranium, and their complete detachment from each other, so that the cranial contexture seems to be thoroughly broken up. In cases of this kind, you feel all the bones at liberty, and floating, as it were, in the mollified brain. Hunter used to compare the head in this condition to a bag of shells. Mere mobility of the bones without displacement, and solution of union, is no proof whatever of death. Children on this evidence declared to be still, have, to my knowledge, begun to cry lustily immediately on entering the world. I repeat it, therefore, to demonstrate death, the bones must be detached and afloat.

"By laborious and other labours, it sometimes happens, that the umbilical chord lies within reach of the fingers, descending along with the abdomen in the crural presentation, and in presentations of the vertex, occasionally hanging down with the head. Well, in these cases, when the chord descends, if its pulsations are distinguishable, we may certainly infer that the fœtus is alive, for this pulsation arises from the beat of the heart; but if the chord be cold, and brown, and flaccid, and destitute of pulsation, you may then, I think, be satisfied that the fœtal life is extinct. Remember at the same time, that where the chord comes down, a temporary suspension of the pulsation for a few minutes may arise from syncope, and that such temporary suspension is no certain proof of death; no certain proof of that complete extinction of vitality, which renders recuscitation by the tracheal pipe or warm bath hopeless. By the condition of the chord, death is demonstrated in those cases only in which this part is found to be soft, and cold, and brown, or for half an hour or an hour together, totally destitute of pulsation. These, then, are the three principal evidences on which I rely, in endeavouring to ascertain the decease of the fœtus—a desquamation of the cuticle, a complete solution of the connexion between the cranial bones, and for 30 or 40 minutes together, a total cessation of pulsation in the umbilical chord; and of the three indications enumerated, to me it appears that the second will, in practice, be found of greatest value, I mean the total disruption of the osseous structure of the cranium.

"Of the death of the fœtus, there are, too, other signs which must not be passed without notice, although on them but little reliance can be placed. By your patient, you may sometimes be told that the fœtus must be dead; for, "I have not felt it for a day or two." Now, be it remembered always, that the child may not be felt for hours, or days, or even for weeks together, and yet, nevertheless, it may be vigorously alive when born; certainly, so far alive as to be recuscitated by the tracheal pipe or warm bath. Do not be deceived, therefore, into a notion that the fœtus is dead, merely because it has not been felt spurning or cuffing the uterus. By some it might be supposed that the child is dead, in those cases in which you cannot feel the pulsation in the fontanel. This might be made a very pretty subject for obstetric disputation; but when you are become more experienced in practice, you will not, I think, feel inclined to give much attention to this sign. If a child be prone to hydrocephalic, or affections of the convulsive kind, the pulsations of the fontanels may sometimes after birth be felt more distinctly than the beat of the radial artery; but in health, even in vigorous children, the cerebral pulsation may not be clearly distinguished, and how can we then, in prudence, venture to infer the death of the fœtus, merely because the pulsation is indistinguishable at a time when the head is lying at the brim of the pelvis. Again: a strong proof of death is taken from the issue of a fetid discharge from the uterus, and yet you ought not to consider this sign as decisive, for these discharges are now and then observed, when the child is alive. Nor is it a certain proof that the child is dead, when under the vertex presentation, you find the meconium is making its escape, the discharge being detected by the stain which it imparts to the fingers; for although this discharge, in many cases, arises from death and paralysis of the sphincter, yet in two vertical presentations, I have observed a discharge of the meconium, though the fœtus was vigorously alive.

"If the scalp is *emphysematous*, or the abdomen be tympanitic, this is a very strong presumption that the child is dead; and peritoneal tympanitis easily discovered in crural presentations, is not very uncommon in its occurrence. So that it is not from the emphysema of the scalp, the discharge of the meconium, the fœtid discharges from the uterus, the quiet of the fontanel, or the quiet of the child, but rather from the desquamation of the uterus, the cessation of the pulsation in the umbilical chord, and above all, from the total breaking up of the bony structure of the cranium, that the death of the fœtus may be most certainly inferred."

Art. II. *Medical Flora; or Manual of the Medical Botany of the United States of North America.* By C. S. Rafinesque, A.M. PH. D. &c. Vol. I. Philadelphia. 12mo. pp. 268. 1828.

At the present day, a laboured argument in favour of Medical Botany is quite unnecessary. Some of the most valued ornaments of our profession are enrolled among the number of its cultivators, and its members have very generally concurred in attesting its utility.

Such being the opinion of medical men, the only question that remains in noticing the work before us relates to the manner in which it is executed. To arrive at a correct answer to this, it will be necessary for us, briefly to notice some previous works on medical botany. By this means we shall be enabled to judge, with more correctness, how much credit is due to the author of the volume under more immediate consideration.

Works or treatises upon medical botany are of two kinds. In the one, the subject is treated of distinctly; the plants are minutely and scientifically described and figured, and their chemical properties and medicinal virtues detailed. In the other, the descriptions are unaccompanied with figures, and the medicinal plants are noticed in connexion with remedies derived from the animal and mineral kingdoms, and those which are the produce of art. To the latter class belong all the materia medicas, dispensatories, pharmacologies, pharmacopeias, &c. To the former, herbals, medical botanies, and medical floras.

As it regards systems of materia medica, some original ones have been published in this country, and we have also reprints of the most esteemed foreign ones; one or two dispensatories have also been published, besides the Pharmacopeia of the United States.

Though most of these works contain notices of some of our medicinal plants, our present business is chiefly with those productions in which these are made the exclusive subjects of examination. Of such, the only ones deserving of attention, previous to the publication under review, are those of the two Dr. Bartons, and of Dr. Bigelow.

The first of these works in the order of time, is entitled, "*Collections for an Essay towards a Materia Medica of the United States,*" by the elder Dr. Barton, which reached its third, and we believe its last edition, in 1810. This being the first attempt of the kind, if we except the "*Materia Medica Americana potissimum Regni Vegetabilis*" of Schoepf, which, though from an author of great learning, is tainted with old and exploded notions,—we could not reasonably have expected a very perfect work. It is rather an enumeration of native medicinal plants then known, than an accurate account of them. It is unaccompanied with figures, and is destitute even of scientific descriptions. The facts are arranged under nine heads, viz. Astringents—Tonics—Stimulants—Errhines—Sialagogues—Emetics—Cathartics—Diuretics and Anthelmintics.

In the notices of the plants belonging to the above classes, brief as they are, we find much valuable information, both original and derived from other sources, though the author has, in many instances, placed too much reliance upon the testimony of incompetent witnesses. The vague and incorrect notions of our *Indians*, are too often set down as standard authority in favour of the medicinal powers of plants, and many articles are introduced upon still more questionable evidence.

It must be admitted, however, that this work with all its faults, has served some useful purposes. By its means, the attention of our medical men was first directed to the study of the nature and properties of indigenous plants : "in particular, in the hands of the student of medicine, it has been useful as a guide in conducting him through the extensive wilderness of our riches."

In the year 1817 appeared simultaneously, or nearly so, the "*Vegetable Materia Medica of the United States,*" by Dr. W. P. C. Barton, and the "*American Medical Botany,*" by Dr. Jacob Bigelow. These works are enriched with beautiful, and generally accurate figures of the plants described; they contain, also, detailed botanical descriptions, chemical investigations, and practical information concerning their medicinal powers. The mooted question, which deserves the preference, we shall not attempt to decide. Both of them are, in some respects, deserving of the highest praise; in others, open to objection.

In the first place then, the works are too costly to be of very general utility. Many medical students, and even many physicians, cannot afford to purchase them. This circumstance operates injuriously in another way. The first impression produced on looking over these volumes is, that they are rather intended as fine specimens of the arts, than as exhibitions of medical talent and learning—rather intended for the table of the drawing-room, than the library of the student. Those who advert to the force of such impressions, must be aware that they operate much to the injury of these works.

Again, so far as it respects the vegetable chemistry contained in them, these works are also defective. There is often a want of accuracy in the analytical details, and the methods pursued are not always the best even then known. Since their publication, however, great improvements have been made in vegetable analysis; the active principles of plants have, in many instances, been separated, and some of the most efficient remedial agents have thus been discovered. The older methods of investigation have been proved to be extremely inaccurate, and new ones have been substituted. On these accounts the chemical analysis contained in these works can seldom be relied on, though their defects in this particular, are not chargeable in any great degree to the authors.

We shall not occupy time in pointing out the peculiar merits of these works. Their publication, at that time, was a hazardous experiment, which, whether profitable or not to the proprietors, was most certainly in the highest degree creditable to the country, and to their authors. But persuaded as we have ever been of the importance of medical botany, we had hoped to have seen them succeeded by publications equally comprehensive, but far less costly;—such as would have found their way into all ranks and classes of the profession.

After the lapse of eleven years, we are presented from another quarter, with a work which, in many respects, answers these intentions. The author, though not a native, has resided in this country for many years, and is well known as a most active and successful cultivator of the natural sciences, particularly of the departments of zoology and botany. "His qualifications for the task," as he himself states, "result from fifteen years of botanical and medical observations and researches, and eight thousand miles of botanical travels, wherein he diligently inquired and elicited from the learned and the illiterate, the result of their practical experience." *Introduction*, *page* 8.

According to Mr. Rafinesque, it has been ascertained, that there are nearly six hundred medical plants actually known and used as such, in the United States; many of which, however, are merely medical equivalents. This number being too great for the purposes of a manual, one hundred and five of the most active and efficient medical TYPES have been selected, figured, and described. The others have been referred to these as substitutes or *succedanea*, when they possess nearly the same ostensible qualities and properties.

The species selected include all those of Bigelow and Barton, and twenty-five additional ones. Most of the figures were drawn by the author, and a few reduced from the above works; they have been engraved and printed in a style suited to the assumed purpose. The botanical alphabetic order has been adopted, as the most convenient.

At the head of each article the proper botanical name is given; the English, French, and German names follow; next the officinal names used in the pharmacopeias; and lastly, the vulgar or common names of the country, which are variable in almost every section or state. When a plant has received several botanical names, the obsolete are given as synonyms.

After the names follow the botanical and medical authorities consulted, the generic and specific characters, the complete botanical descriptions, the locality or native places of growth, with the general history of the genus and species, forming the botanical sections of each article.

The medical division contains the sensible and chemical qualities of the plant, with the medical properties, including uses, doses, and preparations. Equivalent substances, and various remarks, conclude the article.

The plan of adding medical substitutes is borrowed from the excellent French work of Peyrilhe on Medical Natural History. The knowledge of these medical equivalents, will be found very useful, when the required plants are not obtainable, while some substitute may perhaps be procured. It follows of course, that each equivalent is vice versa a mutual substitute in most cases, although the plants are seldom identical in power and activity. .

Such is a brief outline of the scope of this work, drawn chiefly from the Introduction prefixed to it, which in general, has been well filled up by the author. The general principles of medical botany—a critical table of the principal authors and works consulted, and an explanation of some botanical terms precede the notice of particular plants. The plants are treated of in the alphabetical order, and each species is neatly, and in the main, accurately figured, though from engravings on wood.

In the notices of these plants the author has brought together, in a concise manner, what is known concerning their medicinal powers, and has given copious references to authors who have treated of them more in detail. It should be remarked, however, that he is frequently mistaken as to their precise medical powers, and what he denominates his substitutes, are in some instances, misapplied. These occasional mistakes may be all referred to the fact, that the author is not a practitioner of medicine, and has, of course, been obliged to depend upon hearsay evidence rather than upon personal observation.

As it is, however, the work is valuable to the medical student, and the practitioner will not unfrequently find in it hints which may lead him to valuable discoveries in the vegetable materia medica. With these views, we feel greatly indebted to Mr. Rafinesque for the present volume, and we trust the continuation of it will not be delayed for want of patronage.

Art. III. *American Medical Biography: or, Memoirs of eminent Physicians who have flourished in America. To which is prefixed a succinct History of Medical Science in the United States, from the first settlement of the country.* By James Thacher, M.D. Fellow of the American Academy of Arts and Sciences, &c. 2 vols. 8vo. Boston, 1828.

We only reiterate a common remark, in asserting the interest attached to the biography of illustrious individuals. If executed in a becoming manner—with a proper attention to the traits that characterise, and the virtues that ennoble, it becomes an inexhaustible source of instruction. "The good that men do," lives after them, and is perpetuated from generation to generation.

Our own profession has not been wanting in such models. It would, indeed, be remarkable if this were not the case. There is no occupation which more constantly calls into exercise the benevolent and kindly feelings of the human heart—there is none in which they more require to be cultivated. The intellect, too, must be improved in all its wide extent of powers. Occasions have occurred, when as much firmness was needed as ever accompanied a general to an assault—and it has often triumphed as gloriously as with the military victor. Much as we may be disposed, in our hours of despondency, to lament the imperfections of our science, it certainly will bear a favourable investigation on the score of facts observed, of theories arranged with wonderful ingenuity, and of noble discoveries, elicited at the expense of health, and even life itself.

With such feelings towards our profession, and believing that we should be recreants, did we not entertain and foster them, we have ever felt pleasure at witnessing any efforts towards illustrating the character of its distinguished votaries. It is probably no great stretch of national vanity to assert, that of all the learned professions, none in this country approaches nearer to the condition they hold in Europe, than the medical. Many of the most eminent American physicians have been educated abroad, and obtained there all the knowledge that the most celebrated schools could afford. They returned to improve it—to apply it practically to the diseases of their native soil; and as a result from this combination of intellect and experience, they too have been enabled to aid in enlarging the boundaries of science. In several instances, they have formed medical institutions, and thus gave the first impulse to that general diffusion of knowledge which at present exists among medical men.

We forbear, for obvious reasons, to indicate the more occasional causes that have led to reputation and success. They are sometimes to be found in the individual himself—sometimes events have exercised a benignant sway—while most commonly, a combination of both have led to the prosperous result.

A person who devotes himself to the elucidation of the characters of such men as we have adverted to, deserves well of the community; and particularly so in our own country. Our history is written in official documents and in newspapers, and we have few of those contemporary annals, which, in other countries, serve either as a guide or an admonisher to future writers.

At an advanced age, Dr. Thacher has undertaken the task of collecting the biographies of distinguished American physicians. We confess we were among the number of those who expected much from this work—we frankly avow our disappointment. We had hoped that it might be an altar on which all might heap their offerings, without any thing to divert their homage, or exacerbate their feelings. We had understood, nay, we had been informed, that the events of the present day in medical politics, were to remain unnoticed. Dr. Thacher has, however, seen fit in several places to take the stand of a partisan—to deliver decisive and sweeping opinions on subjects at least admitting of discussion, and to judge concerning them in a manner certainly not according with the views of many of those, who, before this, have felt for him nothing but respect and esteem.

The radical fault of Dr. Thacher's work, in our opinion, is, the want of a *single* author. Facts might have been obtained, and sketches of characters solicited—indeed, every aid that so voluminous a work, comprising so many details evidently needed—and still the modelling might have been the work of one hand. If this course had been pursued, it would have produced a unity of sentiment and style throughout the work, in which, at present, it is totally deficient. Illustrations of this defect are to be met with from one end of the work to the other. In the lives of some of the more prominent characters, it is however most observable, and of course, most to be regretted. The life of Dr. Rush for instance, though containing some good materials drawn from the eulogy of the late Dr. Ramsay's, is, taken as a whole, a miserable piece of patch-work, altogether unworthy of the subject. In this country, no finer field could be offered for the medical biographer than the life of this distinguished man. But to be his biographer and to do justice to the subject, requires sense, discrimination, and independence. It is much to be regretted that Dr. Thacher did not employ some man of this stamp to execute this part of his work, instead of trusting to the clumsy daubings of one whose ideas of biography do not soar beyond the chronicling of dates, and the recording of births and deaths.

Another consequence of this mode of getting up this work, is the disproportionate length of many of the lives. The account of Dr. Bard, for instance, occupies forty pages, and that of Dr. Williamson covers nearly thirty—while that of Dr. Edward Miller takes up only seven, and that of Dr. Barton is compressed into two.

We would in the second place suggest, that the biographies *are in too many instances miscellaneous, rather than medical.* It is true, that many physicians in this country have filled distinguished civil and military offices, and every thing of interest relating to these deserves mention; but we apprehend, that the chief aim should have been to develope their acquirements in medicine. If they have published any thing on the science, a brief, but complete analysis of it should have been added—or if, (as is often the case) they were only known as practitioners, their introduction of new remedies—their peculiar views of diseases, and their treatment of them might have been specified. Here, however, we must again mention, that Dr. Thacher is not principally in fault. He has necessarily been in a measure dependent on his correspondents—some of whom seem to consider the appointment to a county court judgeship, a greater honour than to have discovered a valuable indigenous remedy, or to have subdued a herculean disease.

It may be remarked in the last place, as a matter of regret, that many names are excluded, doubtless from a want of sufficient materials. But we should have rejoiced to have seen the names alone, if nothing more, of all the surgeons of the revolutionary war—their place of birth—the time of their death—the regiments to which they were attached, and the campaigns in which they served. A few lines would have sufficed for all this, but it would have added to the interest of the work.

Notwithstanding these objections that we have thus frankly made to the "*Medical Biography*" of Dr. Thacher, we do not hesitate to declare, that it contains much valuable information. He has brought together a greater number of names than probably any other individual of the present day could have done, and the lives of many cannot be perused without improvement. These pages speak of " men eminent in their day and generation"—of patriots who stood for their country in the cabinet and in the field—of scholars, philanthropists, and christians. The following extracts will give a favourable idea of the work.

The first is from the life of Dr. Boylston, and gives an account of the introduction of inoculation into this country.

" In the year 1721 the smallpox appeared in Boston, and pursued its usual desolating career, carrying with it the utmost terror and confusion. On this alarming occasion Dr. Cotton Mather, the learned and distinguished divine, communicated to Dr. Boylston a publication in the Transactions of the Royal Society, announcing the discovery of a new method of mitigating the virulence of this fatal disease. This intelligence was from Drs. Timoni and Pilarini,* being a concise account of the process of inoculation, as then practised in Turkey by scarifying the skin and applying the matter under a nut shell, but giving no other directions concerning the practice or mode of treatment. Dr. Boylston was forcibly impressed with the benefit of the discovery, and accordingly, after deliberating on the most safe and expeditious mode of thus artificially introducing the disease into the system, he communicated to the medical gentlemen in Boston, the plan he proposed to adopt, and the source whence he derived the first hints of the operation, desiring their concurrence in the undertaking. But Dr. William Douglass, a Scotch physician of some eminence, who had seen the publication in Dr. Mather's possession, and Dr. Dalhonde, a French physician, also of some repute in Boston, united in a violent opposition to the plan, and publicly denounced it as introductory of the plague, which had so often visited and nearly depopulated many cities in Europe and Asia; and declared that the attempt to put it into practice would be no less criminal than murder. The other physicians in Boston not only refused their co-operation in so novel and bold an experiment, but condemned it in their writings, and opposed it in every shape. Dr. Boylston, however, was a man of benevolence and courage, and finding before him a promising opportunity for diminishing the evils of human life, he was not afraid to struggle with prejudice, nor unwilling to encounter abuse in the noble cause. The clergy in general were disposed to aid the project, but a few of the less liberal were instigated to preach against it, and such was their influence, added to that of Douglass and Dalhonde, that the inhabitants became enraged, and were excited to commit atrocious acts of outrage on the person of Dr. Boylston. They patroled the town in parties with halters, threatening to hang him on the nearest tree. The only place of refuge left him at one time was a private place in his house, where he remained secreted fourteen days, unknown to any of his family but his wife. During this time parties entered his house, by day and by night, in search of him. Nor was this all; their rancor extended to his family; for one evening, while his wife and children were sitting in the parlour, a lighted hand grenade was thrown into the room, but the fusee striking against some of the furniture, fell off before an explosion could take place, and thus providentially their lives were saved. Even after the madness of the multitude had in some measure subsided, Dr. Boylston ventured to visit his patients only at midnight and in disguise.

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* Dr. Emanuel Timoni Alspeek, who was graduated both at Padua and at Oxford, was residing in Constantinople in the year 1703, and was then struck with the instances which he witnessed of the mitigated nature of the smallpox, when the virus was artificially communicated to the human frame. He wrote an account of his observations to Dr. Woodward, by whom it was inserted in the Philosophical Transactions of the year 1714. Pilarini was a Venitian physician, and published in 1715 at Venice a statement of the success of the Turkish practice.

"Undismayed, however, by all this violence, and unsupported by the friendship of any but Dr. Mather, he commenced on the 27th of June 1721, while the smallpox was in its most destructive progress through the town, this untried experiment of inoculation on his own son, a child of thirteen years of age, and two blacks in his family, one of thirty-six, and the other of two years of age; and on all with complete success. This rekindled the fury of the populace, and induced the authorities of the town to summon him before them to answer for his practice. He underwent repeated examinations, and although he invited all the practitioners in Boston to visit his patients and judge for themselves, he received only insults and threats in reply. These facts we have thought worthy of notice, as remarkable in themselves, and as in some degree characteristic of the excitable spirit of the times. In thus encountering obloquy and reproach, however, Dr. Boylston but experienced the fortune of most of those who have attempted to innovate on long established usages, or to take the lead in the career of public improvement. The smallpox ceased its ravages in May 1722, and during its prevalence Dr. B. continued the practice of inoculation to all who could be induced to submit to it. He inoculated, with his own hand, two hundred and forty-seven of both sexes, from nine months to sixty-seven years of age, in Boston and in the neighbouring towns; thirty-nine were inoculated by other physicians after the tumult had in some measure subsided, making in the whole two hundred and eighty-six; of whom only six died, and of these, three were supposed to have taken the disease in the natural way some days previous to their being inoculated; three of those who died, were his oldest patients. It appears by the accounts published by the select men, that during the same period five thousand seven hundred and fifty-nine had taken the natural smallpox, eight hundred and forty-four of whom fell victims to the disease, being more than one in six. In the vicinity of Boston it had been still more malignant and fatal. The utility of the practice was now established beyond dispute; and its success encouraged its more general practice in England, in which country it had been tried upon but a few persons, most of whom were condemned convicts and charity children. The daughter of Lady Mary W. Montague was inoculated in London in April 1721, being the first instance in Europe, and the convicts were made the subjects of the experiment in August of the same year. Dr. Boylston therefore is justly entitled to the honour of being the first inoculator in America, and this even before the single instance of the experiment in Europe had come to his knowledge." p. 186—188.

Every body has heard of Perkins' Tractors, and we therefore presume the following account of the author will not be unacceptable.

"Dr. Elisha Perkins was born at Norwich, state of Connecticut, in January, 1740, and was educated for the profession by his father. He possessed by nature uncommon endowments, both bodily and mental. In his person he was six feet high, and of remarkable symmetry.

"His ability to perform active professional business was extraordinary; he frequently rode sixty miles a day, and generally on horseback, and this without the aid of artificial stimulants, never making use of ardent spirits. He had contracted a habit altogether peculiar to himself. When making his professional visits and inclined to sleep, he would hand his watch to a person and throwing himself on a bed or couch, give orders to be waked in five minutes precisely; if suffered to sleep six minutes, he would know by his feelings that the time had been exceeded, and whenever the time of sleep exceeded by one minute his rule, he invariably would say that he felt the worse for it. By this practice he was enabled to perform his duties with three or four hours sleep in the night for many weeks in succession, though subjected to great fatigue.

"Having descended from respectable ancestry, who long possessed a distinguished influence in the medical profession in that vicinity, he attained a considerable reputation and popularity. His acquaintance was very extensive, and his great liberality and social habits allured to his house gentlemen from different parts of the country, and his inquiring mind seemed ever to search for something new in every sphere which could better the condition of the human family. He had a happy facility in communicating his views, and turning to some valuable purpose such information as he could derive from others. He made great sacrifices in establishing and supporting an academy in Plainfield, and other useful improvements in that town. He was esteemed as a man of strict honour and integrity of character.

"Dr. Perkins entered with peculiar zeal into a new project for the cure of diseases, which gained no inconsiderable celebrity at the time of its promulgation in 1796. Conceiving an idea that metallic substances might have an influence on the nerves and muscles of animals, and be capable of being converted to useful purposes as external agents in medicine, he was induced to institute numerous experiments with various kinds of metals, till at length, after several years pursuit of the object, he discovered a composition which would serve his purpose, and from which he formed his Metallic Tractors. These consisted of two instruments, one having the appearance of steel, the other of brass. They were about three inches in length, and pointed at one end; and the manner in which they were applied was, by drawing the points over the affected parts in a downward direction for about twenty minutes each time. The complaints in which this operation has been found most useful, according to Dr. Perkins, are local inflammations in general, pains in the head, face, teeth, breast, side, stomach, back, rheumatism, &c. Dr. P. obtained a patent for his discovery, and traveled through the country to disseminate his new practice, and his career was attended with great success. Numerous cures were effected by the employment of the Tractors in his hands and in those of others. His enthusiasm pervaded all ranks, and received the countenance of many enlightened physicians and philosophers. Pamphlets were published to explain the modus operandi of the new remedy, and [illegible] Professors of three universities in America gave attestations in favour of its efficacy. The operation was alleged to be similar in its principles to animal magnetism, or, according to some, animal electricity or galvanism.

"The fame of the Metallic Tractors soon reached Europe. They were introduced at Copenhagen in 1798, where twelve physicians and surgeons, chiefly professors and lecturers in the Royal Frederick's Hospital, commenced a course of experiments, and reported the result to Professors Herholdt and Rafn. The experiments, fifty in number, were deemed sufficiently important to demand publication in an octavo volume. The Professors introduced the term Perkinism in honour of the discoverer, and asserted that it was of great importance to the physician. 'We do not find it possible,' say the professors, 'to apply with any justice against Perkinism, the arguments and doubts which have been raised against animal magnetism. Our experiments have demonstrated to our satisfaction that there is a great deal of reality at bottom." This book was translated into German by Professor Tode, Physician to the King of Denmark, and thence into English by C. Kampfmuller. After the death of Dr. P. Mr. Benjamin D. Perkins, his son, repaired to London, and securing a patent, immediately published a tract on the discovery. Soon after this, Dr. Langworthy of Bath, having recently returned from America, commenced a course of experiments at Bath and Bristol hot wells, with a view of ascertaining the merits of the Tractors. The result was published in a pamphlet, containing a collection of cases, highly creditable, as he judged, to the metallic practice, with ingenious observations on the theory of their operation.

"In 1804 the Perkinean Institution, as it was called, was established in London, chiefly with the view of benefiting the poor by the use of the Tractors. The Right Hon. Lord Rivers was President, and Sir William Barker, Vice President of this Institution, and funds to a large amount were obtained by donations and subscription. In a pamphlet entitled an account of the Perkinean Institution, published in London in 1804, it is stated that the communications of cases are from disinterested and intelligent characters from almost every quarter of Great Britain, and that amongst others whose names are attached to these communications, are eight professors in four different universities, twenty-one regular physicians, nineteen surgeons, and thirty clergymen, twelve of whom are Doctors of Divinity. The cases published amounted in March 1802 to about five thousand. Supposing, says the writer, that not more than one cure in three hundred, which the Tractors have performed, has been published, and the proportion is probably much smaller, it will be seen that the number to this time has exceeded one million five hundred thousand! In answer to the objection that the cure was effected merely through the influence of the patient's imagination, the promoters of the Perkinean Institution asserted that multitudes of cures were performed on infants, and even on horses,* where of course such influence could not be presumed to exist.

Such is the history [illegible] the Metallic Tractors. It is to be considered a singular and unaccountable circumstance that the remedy should have been consigned to oblivion. Is it within the bounds of probability that the vast amount of authenticated evidence that has been produced, should be resolved into a delusion, a mere phantom of the imagination? However enthusiastic the promoters of the novel discovery may have been, it is most clear that autopsical evidence was in every instance at command, and might have precluded the possibility of deception. If, therefore, Perkinism has shared the fate of Animal Magnetism, there is no sufficient reason for supposing that its discoverer should be placed in the same class with Mesmer, as he undoubtedly was a man of honourable principles and character.

"Dr. P. directed his benevolence to another object of considerable importance in medicine. He introduced into practice a remedy consisting of a combination of the vegetable with the muriatic acid, in the form of common vinegar saturated with muriate of soda*. This diluted with three parts of hot water in the dose of a table spoonful, he administered with great success as a powerful antiseptic in the low state of dysentery and ulcerated sore throat. During the prevalence of yellow fever in New-York, in 1799, he visited that city, to avail himself of opportunities of testing by experiment the efficacy of the above-mentioned highly antiseptic remedy, believing that antiseptics had been too much neglected in that formidable disease. After about four weeks unremitted assiduity in attending the sick, he took the disease himself, of which he died at the age of 59 years." p. 422—425.

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* In many parts of the country the use of the Tractors upon horses had become as general as on the human body, and numerous extraordinary cures were certified.

The following anecdote is related of Dr. Hunt.

"A cancer was forming in his head, where he himself could not observe it. He considered it dangerous, and even apprehended that his end was near. In 1789 he went to Boston, thinking it might be for the last time. The Counsellors of the Massachusetts Medical Society were then in session. At the request of his brother-in-law General Cobb, Dr. Hunt went to them that they might examine the cancer. They decided that it might be eradicated. It was agreed that on the next day the operation should be performed. Accordingly in a full meeting Dr. Warren was selected as the operator. 'We must bind his hands,' said Dr. Warren. 'No cable in Boston could hold them fast,' rejoined Dr. Hunt; and with an effort that astonished the physicians themselves, he quietly laid his head on a pillow, and bade them begin. The ear was first nearly cut off, though afterwards successfully replaced; then for thirteen minutes the operation continued, and every stroke of the knife, so near the auditory nerve, was like the report of a pistol. Dr. Hunt did not flinch in the least, though the sweat poured down his cheeks profusely. At length all was done; and as he raised his stately form, his first words were, 'Now, sir, give me a certificate.' Dr. Warren did not understand him, and asked for what reason. 'Why,' continued Dr. Hunt, 'that I was not cropped for making money.' Dr. Warren laughed, and pleasantly rejoined, 'I will give you none, for I hear that no physician in the west has made more money than you.' The meeting was then adjourned, all agreeing that they had never seen a man of more firmness or better humour." *Appendix, p.* 251.

The biographical sketches are prefaced by a "History of Medicine" in America. It extends through eighty-five pages, and contains much curious information in relation to the early progress of medicine in this country. The great objection to it is, that it enters into details too minute and unimportant. That part of it which relates to the more recent history of medicine among us, is by no means so satisfactory, and abounds in errors and misstatements. Of the account which is given under the head New-York, part is pure fiction, and much of the remainder is a downright insult to the good sense and knowledge of the profession in this state and city. Whilst the pretended improvements in practical medicine of one or two individuals, whose sole claim to notoriety rests upon the puffs which they have published of themselves, are ostentatiously obtruded before the public eye, almost every thing of a character *really* creditable to the talent and science of the profession, is *purposely* omitted. We say *purposely*, because we are convinced Dr. Thacher never wrote this part of his history, and he has only fallen into this injustice, by a misplaced confidence in men skilled in all the arts of deception.

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* This remedy is the same as is recommended by Dr. Wright of Jamaica, except that the acetic is substituted for the citric acid.

In relation to the recent controversies which agitated the profession in this city, Dr. Thacher, instead of maintaining the dignified impartiality of the historian, has chosen to enter the lists as a partisan of the defeated party. He gives the following very amusing account of the catastrophe which befell them.

> "For a period of about seven years subsequent to the union of the two schools, the College of Physicians and Surgeons was on the march to the highest degree of eminence, and its reputation was recognised in every portion of the union. The class of students consisted of two hundred, and the number was increasing with the opening of each session. But from some cause [?] those professors, whose talents and zeal had been universally acknowledged, [! !] were assailed with clamorous accusations, and charges of serious import were arrayed against them: these, however, on investigation by the regents in March, 1825, were declared to be unsubstantiated, and were pronounced by that honourable body, in their elaborate Report, to have arisen from jealousy and professional rivalry. Broils and contention, nevertheless continued, and the opposition assisted systematically in their purpose. In April, 1826, the professors, wearied with unavailing attempts to silence the opposition, came to the conclusion that "it would best consist with their own self-respect" to withdraw altogether from the

institution, and accordingly they tendered their resignations of their professorships and offices. The board of regents accepted their resignations, April 17, 1826." p. 55.

For the purpose of rendering this part of his history a little more complete, we present him with the following *morceau*.

"Five of the seven persons who constitute the medical faculty of Rutgers College, viz.—Drs. Hosack, Mitchill, Francis, Mott, and Macneven, were, previously to April last, the professors of the College of Physicians and Surgeons in New-York. They thought it *necessary*, or *convenient*, or *politic*, (and it is not exactly known which,) to resign their places; but, with the exception of Dr. Mitchill, all signified to the Regents their willingness to be re-appointed, finding, it is presumed, that this *ruse de guerre* did not answer expectation. The Regents however, who saw no difficulty in filling the chairs, to say the least of them, with gentlemen full as competent as those who had just resigned, refused to re-admit any one of them. Whereupon they applied to be made a faculty in Columbia College, and being refused, they applied to Union College for the same purpose; still not succeeding, *in extremis* they make an audible appeal to Rutger's College, New-Jersey, *and are admitted:* one of the conditions of the contract being, that Rutgers College shall receive the sum of TEN DOLLARS for each and every candidate which these gentlemen shall recommend to the degree of Doctor of Medicine!

"As the fact of the late Professors having applied for re-appointments, after their resignation, has been very boldly denied, I shall present the following extract of a letter, addressed by Dr. David Hosack to the Hon. Gulian C. Verplanck, as conclusive on this point:

"'When we the late Professors left the College, we entered into an obligation to each other to combine our interests and our labours. I find to my surprise, that Dr. Mott and Dr. Macneven have *secretly* offered themselves to the Regents as candidates for their former places in the College, and that too *under any circumstances*. I therefore feel myself absolved from my contract with them, but I cannot suffer my old friend and colleague, Dr. Francis, to become a sacrifice upon this occasion—if therefore he can be provided for, and the obstacles to our admission removed, I should certainly have no objection to return to that institution, *but not otherwise*.'"—*Annual Address before the State Medical Society, Feb.* 1827. By JAMES MANLEY, M.D. &c.

It is not our intention to enter upon an exposure of all the errors and misstatements which have crept into Dr. Thacher's work. The task would be too painful to us, knowing as we do, that *with him* they could never have originated. We venerate his age and respect his talents, and most deeply do we regret that it has been his misfortune to fall into the snares of deceivers, who to bolster up a windy reputation, have been willing to sacrifice the character of this book, as well as that of its venerable author.

Art. IV. *Fragmens de Médecine Pratique, lus a la Société de Médecine et a l'Athénée de Médecine de Paris.* Par F. O. Doucet, Docteur en Médecine, &c. &c. Paris, 1828. pp. 48.

This little pamphlet was published by its author, who is a resident practitioner in this city, during a visit to Paris. It relates to a subject of great practical interest, and the manner in which it is treated, does by no means detract from the interest of the subject. It is at once concise and perspicuous, and may serve, we think, as a model to some of our more voluminous authors.

It comprehends two papers; the first on *Tetanus*, the second on *Bilious fever*. Both were read before the Medical Society and the Medical Atheneum of Paris, and both ordered their publication.

On the subject of tetanus, Dr. D. relates three cases of the traumatic form of that disease, all cured by cold affusions, (douches poides), with the concomitant treatment by means of stimulants, tonics, and diaphoretics. The first and last case fell under his own observation, and the second was communicated to him by a Canadian practitioner, named Dr. Arnoldy, of Montreal. The introductory remarks are so replete with correct reasoning and sound judgment, that we feel confident they will not fail to redound to the credit of their author, by being copied here as a specimen of his style of writing.

"Whenever a disease is unknown in its essence, all treatments are necessarily empirical, and, in this alternative, we cannot deny a decided preference to that which has succeeded the most frequently and in the shortest time.

"The nature of maladies is so imperfectly understood, notwithstanding the improvements afforded by pathological anatomy, that we cannot wonder at being compelled, in most cases, to resort chiefly to empirical treatments in preference to means apparently the most rational. The reason is obvious: empiricism is constantly the result of observation, whilst *rationalism* is often the offspring of systems; and since we have been taught to discover with what readiness the most discordant and inconclusive facts are brought to support medical doctrines, we cannot but use the greatest reserve in adopting the practical consequences that are deduced from them. These reflections are suggested by the disease which is the object of this memoir."

Following this reasoning, we say the pathological nature of tetanus is not understood, its treatment is, therefore, empirical. Whatever opinion might be successfully adduced to prove the contrary, as this would not be a difficult matter to a thinking mind, we cannot, nevertheless, but felicitate the profession on the rapid progress that pathological inquiries are making at present in France, and in this country, as well as in some parts of Great Britain. This mode of proceeding in the knowledge and treatment of diseases was discovered and taught by Bichat, and although somewhat exaggerated by M. Broussais, forms the basis of the system now pursued in France, as amended and applied to practice by the modern adepts of the school of that celebrated reformer.

We now proceed to give a brief sketch of Dr. Doucet's cases.

The first is that of a farmer of Detroit in the state of New-York, aged 37, of a strong constitution. On the 6th of June he wounded his great toe, but continued his occupation; the wound cicatrised on the 24th, and constipation, painful tension of the back of the neck, extending along the spine and disturbed sleep, made their appearance.

On the 26th, emetic tartar is prescribed. The 27th, difficult motion of the jaw; twenty grains of calomel, with enemata, and a moderate dose of camphor and opium. 28th, mouth closed; fifteen buckets of cold water poured from a certain height, which produced syncope. After reaction, the jaw could be moved. In the evening, no exacerbation; eighteen buckets are poured again, followed with syncope. During the night, the symptoms grow worse. In the morning of the 29th, the dread of water increases the spasms; affusion of six buckets; no spasms until the following night. The 30th, A. M., affusion; enema producing one stool; in the evening, refusal of affusions; tobacco glyster, infusion of cinnamon as a drink, sixty drops of laudanum. These means bring on no change.

1st July, A. M., spasm violent. Fifteen buckets, with relief; in the evening, thirteen buckets, syncope, followed with some perspiration, spontaneous stools, motion of the jaw. For twelve more days the same treatment is pursued, and a final cure takes place. During the whole course of the disease, the stools and pulse had been natural.

The third case is that of a joiner 34 years old, of a robust constitution. Dr. Doucet at first suspected the case to be a bilious fever, the symptoms of which appeared prominent; but on the following day, tetanus was manifest; twenty ounces of blood are drawn, which bring on syncope. The next morning, 3d August, spasms increased; opium in large doses is given through the mouth and in glysters. The 4th, no relief; sixteen buckets of cold water, followed by syncope, and in the evening, opium as before. 5th, symptoms still increased; eighteen buckets, without much relief. 6th, spasms renewed several times during the night; eighteen buckets of cold water, followed with sensible amelioration. 7th, 8th, and 9th, symptoms return, but less violent; ten buckets every day, with the same concomitant treatment. 10th, convalescent.

The concomitant treatment pursued in both cases consisted of camphor and opium, warm wine, and aromatic warm drinks. The affusions were administered in the following manner. The patient is placed in a bathing tub, and as many buckets of cold water poured upon his head as he can bear; after which, the body is wrapped up in flannel, and diaphoresis promoted by means of dry frictions and the remedies above mentioned.

It is worthy of remark, that the syncope which follows the employment of cold affusions, is more or less sudden as the tetanic spasm is more or less violent, whereby the muscles are relaxed for some length of time. "This mode of subduing the muscular rigidity," says the *Gazette de Santé*, "appears in many cases preferable to bleeding. This last mentioned operation weakens all the systems in a direct manner, without bringing on any change in their relative situation. Cold affusions, on the contrary, by the violent impression they produce on the whole economy, determine a favourable change in the general sensibility of the nerves of locomotion, which, whatever may have been said to the contrary, are evidently the sole organs affected in tetanus. The patients submitted to this violent operation, says Dr. Doucet, rise from their syncope in a state of feelings totally different from what they experienced before its administration, and it is only some time after reaction has taken place, and after it has produced all its effects, that tetanic spasms return, until they are completely subdued by the repetition of this energetic process."

We must also observe, that both patients were of a robust constitution; and it may be a question how far the powerful means made use of for their cure, can be applied to others than those whose vital principle possesses a great degree of vigour.

Dr. Doucet deserves credit for having revived a therapeutical indication which has been long in disuse; nay, we cannot deny him the originality of cold affusions, in the manner he has recommended and successfully tried them; and if after more observations and trials, his process is found to succeed in other hands as it did in his own, Dr. Doucet will have rendered a very important service to science. Indeed, it was the conviction of the inefficiency of all our therapeutical means that prompted the great Paré to bury one of his friends affected with locked-jaw in a dunghill, thereby rescuing him from inevitable death.

Before we drop the subject, however, we beg leave to suggest the propriety of further researches into the real diagnosis of tetanus; for we have not been able to peruse Dr. Doucet's cases, without being struck at their peculiar mildness, the length of their duration, the influence of the concomitant treatment, and the obscurity of the traumatic cause. These reflections, which may be verified by examining the sketch we have given of them, lead us to suggest whether a great many of those cases reported as having been cured, some by cold water, others by warm applications, and other means which, however active, do not produce effects adequate to the severity of tetanus, might not be considered rather as belonging to that class of spasms and convulsions so easily confounded with tetanus. Were it necessary to prove our assertion of such errors often taking place in the diagnosis, we might refer to many cases extant; among others, to that related by Professor Chaussier, inserted in the *Dictionnaire des Sciences Médicales*, article *tetanos*. "Professor Chaussier," says the writer of the article, M. Fournier-Pescay, "was called about twenty years ago, to a young man labouring under obstinate costiveness and violent pain in the intestines, after which tetanus had supervened. The physician ordered a potion composed of castor oil and syrup of peach flowers, which produced copious stools and brought out a large worm, and the tetanus immediately disappeared. This young man had received a few days before, a wound from a sword, which had but slightly involved the skin, and had stopped on one of the ribs. *Had a traumatic cause been suspected*, the patient would inevitably have perished. But the diagnostic was evident to a competent observer, and it did not escape the vigilant eye of the illustrious professor."

There are a number *of* cases on record, where violent spasms and convulsions similated tetanus, and it requires an experienced judgment to distinguish them. Those related by Dr. Doucet, however, appear to have been well marked instances of tetanus, whether the epithet *traumatic* can be strictly applied to them or not; yet, as we have already observed, we leave it to the reader to judge for himself. For ourselves, we do not hesitate a moment in recommending the process adopted by that gentleman; like Dr. D., the practitioner must not be deterred by the violence of its effects, for reaction will shortly succeed the consequent syncope. We all know how insensible tetanic patients are to the action of the most powerful therapeutical agents. The writer of this article has read of a case wherein a physician in the West Indies administered more than three hundred grains of solid opium in less than three days. The London Medical and Physical Journal for 1818, contains one of the most remarkable instances of this sort; it is related by Dr. Painchaud of Quebec. After a copious evacuation of blood of nearly four pounds, that physician gave ʒj of solid opium, and the same quantity of calomel, all in one dose. This was repeated several times, and a cure was speedily obtained.

We have little to say on the subject of Dr. Doucet's memoir on bilious fever. His object appears to have been merely that of making the citizens of Paris acquainted with the nature of fevers as observed in the western parts of this state and of Canada, and with the plan of treatment adopted both in the United States and in Canada against those diseases, which treatment is known to be widely different from that of the French in similar cases. One fact is worthy of notice, with respect to the bilious fever of Detroit. Dr. Doucet, after having left Canada, his native place, resided three years in Detroit previous to his coming to this city. During his stay at that place, he observed that bilious fever regularly appeared every fall, and with different characters every year. In the first year, it was complicated with hepatitis; in the second, with pneumonitis; and the third, with gastritis.

In his conclusion, Dr. Doucet hints at an object of preparing a more detailed and complete treatise on that fever, for which purpose he has collected a great number of notes and cases taken on the spot. Such an undertaking is well worthy of his attention, and he cannot fail to command the interest and best wishes of the profession.

Art. V. 1. *Tables in Illustration of the Theory of Definite Proportionals.* By William Thomas Brande, F.R.S.

2. *A New System of Chemical Philosophy. Part First of Vol. 2.* By John Dalton, F.R.S., &c. Manchester, 1827.

A thin octavo, bearing the title of the first of these works, has recently been published in London. From the introduction which is prefixed, we learn that the tables of Prime Equivalents refer to hydrogen as *unity*, and are founded upon the assumption that the specific gravity of hydrogen is to that of oxygen, as 1 to 16; 100 cubic inches of hydrogen being regarded as weighing at mean temperature and pressure, 2·118 grains, and 100 cubic inches of oxygen 33·8 grains; water, therefore, composed of two volumes of hydrogen, and one volume of oxygen, consists by weight of 1 of hydrogen and 8 of oxygen.

The first of these tables exhibits the specific gravity of the most important gases, with their equivalent weights and volumes, and is intended to assist the student in acquiring correct notions of the relation between combining *weights* and *volumes;* and more especially, to illustrate the important facts respecting the combinations of gaseous bodies, for which we are indebted to M. Gay Lussac, who has shown that they unite in very simple proportions, and that the diminution of bulk which they often suffer in combining, is also an equally simple ratio.

In the second table, the elementary substances and their compounds are arranged nearly in an alphabetical order. The authorities upon which the equivalents of the former are given are, with few exceptions, annexed; and of the latter, the components are in most cases similarly exhibited.

It is wholly useless at the present day to say a word concerning the value of tables of this sort. The representation of the various chemical substances by numbers, has introduced so much simplicity into the various processes of the laboratory, that chemists appear only to vie with each other who shall determine them in the most accurate manner. New and often repeated analysis, the correction of errors in former ones, and a general improvement in analytical investigations, are the means by which this object is to be accomplished.

Mr. Brande has availed himself of the best authorities in the construction of his tables, and we should suppose they would bear a reprint in this country. We make this suggestion for the benefit of some of our American editors of chemical books, in the hope that they will supply a deficiency no longer in the least degree excusable.

The first volume of the work of Mr. Dalton was published many years since, and is no doubt familiar to our chemical readers. Of the present volume we find an interesting notice in the sixteenth number of Brewster's Journal, from which we shall make a few extracts.

Mr. Dalton, in the volume before us, treats of *compounds of two elements*, and he divides it into six sections; the first on oxides; the second on sulphurets; the third on phosphurets; the fourth on carburets; the fifth on alloys; and the sixth on triple alloys. The volume is concluded by an appendix, containing corrections of his former volumes in consequence of new discoveries; and some remarks on recent investigations on heat.

Mr. Dalton enumerates six methods for ascertaining the proportion in which oxygen combines with a metal; first by combustion in air or in oxygen; second by solution in an acid, and subsequent precipitation by an earth or an alkali; third by precipitating one metal by another, whereby oxygen is thus said to be transferred from the one to the other; fourth by the hydrogen evolved in solution by an acid; fifth by transferring a lower oxide into a higher, by means of a solution of oxymuriate of lime (bleaching powder;) and sixth, by the nitrous gas, evolved during solution in nitric acid. The first four methods have been used by chemists for several years past; the two last Mr. Dalton has added from his own experience, having found them, as he says, "very useful assistants in various instances." "The last method by nitrous gas," he adds, "has indeed been proposed before, and labour bestowed on it, both by others and myself, but without reducing the results to any certainty, till lately; the principal cause of this want of success has arisen from misunderstanding the nature and constitution of nitric acid." (page 4). "It sometimes happens, that the nitrous gas is partly or wholly retained by the residue of nitric acid; but in this case the oxymuriate of lime may be applied to convert the nitrous gas into nitric acid." (p. 5.)

Accordingly this method of ascertaining the proportion of oxygen which enters into combination with a metal, is the one adopted by Mr. Dalton. But the method is objected to by the author of the notice, as not likely to be approved by practical chemists; for though assuredly it must be possible in some instances to ascertain the combining oxygen by this method, yet there is hardly an instance where other methods equally easy and more susceptible of accuracy, could not be adopted. Besides, the method rests on a somewhat remote deduction from an assumption that the sole product is a nitrate. Now we know that ammonia results, in some cases, from the action of nitric acid, and its production ought perhaps to be suspected in other cases where it has not yet been ascertained.

Under the section of the carburets, Mr. Dalton's opinion of the nature of steel is deserving of great attention.

"From the above account of steel, it is evident there is an essential difference between it and pure iron. That difference consists, according to the common opinion, in steel being a *carburet* of iron, or carbon and iron united. The fact of the union of carbon and iron, in the formation of steel, does not seem to me satisfactorily proved. Mr. Collier asserts, that iron gains about 1–180th of its weight by being converted into steel. But Mr. Muchet found, that though steel gains weight upon the iron when copiously imbedded in charcoal, yet it loses weight if the charcoal is only 1–90, or 1–100 of the weight of the iron. (*Phil. Mag*. Vol. 13.) The same ingenious gentleman seems to estimate the carbon in cast steel from synthetic experiments, to be 1–100th of its weight.

"From analytic experiments, however, there does not appear reason to believe that steel contains so much, if any charcoal. Pure steel dissolved in dilute sulphuric acid gives hydrogen gas containing no carbonic acid nor oxide, neither is there any appreciable residuum of any kind in general.

"On considering all the circumstances, I am inclined to believe, that the properties that distinguish steel from iron are rather owing to a peculiar crystallization, or arrangement of the ultimate particles of iron, than to their combination with carbon, or any other substance. In all cases where steel is formed, the mass is brought into a liquid form, or nearly approaching to it,—a circumstance which allows the particles to be subject to the law of crystallization. We see that great change is made in steel by the mere *tempering* of it, which cannot be ascribed to the loss or gain of any substance, but to some modification of the internal arrangement of its particles. Why then may not its differences from iron be ascribed to the same cause?" pp. 216—218.

Concerning the *alloys*, Mr. Dalton advances the opinion, that they are chemical compounds. One striking instance of a true chemical compound occurs in the alloy called speculum metal. This alloy is formed out of tin and copper. The smallest deviation from the true proportions, it is well known, will spoil the alloy as a reflector. These proportions were, by laborious experiment, ascertained by Mudge to be 32 of copper to 14½ of tin. Now dividing each of these quantities by 2, we get 16 of copper = 4 atoms, according to Dr. Thomson, and 7·25 of tin = 1 atom. This, be it observed, is the result of experiments made forty years ago, when atomic weights had as yet been unheard of.

But though we agree with Mr. Dalton in considering many alloys as chemical compounds, we by no means would take for granted, that all alloys are compounds. Thus an alloy of silver and steel was formed by Mess. Stodart and Faraday, by melting these two metals together. When this alloy was forged into a bar, and then dissected by means of dilute sulphuric acid, the silver was discovered, not in combination with the steel, but disseminated in threads throughout the mass. These threads of silver may give toughness to the mass, just as hair imparts strength to common mortar; but the silver is as distinctly in a state of mechanical mixture as hair is in common mortar. In like manner small quantities of other metals or alloys are often added, for the purpose, as it strikes us, of imparting mechanical properties, by mixture rather than by combination. But besides combined and mixed alloys, we should regard it quite possible, that some alloys in the solid state, are in fact *frozen solutions*. Mercury, there is no doubt, is capable of holding some amalgams in solution; and till experiment shall contradict the supposition, we shall regard it as conceivable and probable, that some melted masses of metal will prove to be *solutions* of one metal or alloy in another metal or alloy; and that the solid masses derived from such liquids are congealed solutions.

The concluding remarks of the notice cannot fail to interest those who are acquainted with the history of Mr. Dalton.

"Having thus endeavoured to give some idea of the nature and merits of the volume before us, we take leave of it, recommending it to the attention of our chemical readers. The work is one which will not be read as an introduction to chemistry; but it will be perused with interest by all who have made some progress in the science, and who make its doctrines a subject of habitual reflection. Of almost any other chemist than Mr. Dalton, we would have complained of the ignorance in which, it is evident, he has kept himself of the researches of other chemists. But we cannot speak in the language of complaint of Mr. Dalton, known to the world as a very apostle of science—leaving all worldly advantage behind to follow it, and proceeding on cheerfully, without scrip, or purse, or staff. We know not how to express the feelings with which we glance over the last three pages of this volume, containing a list of the scientific papers which Mr. Dalton has published during a period of thirty-five years. One discovery of his gives a glory to the scientific character of the nation, independent of other discoveries which alone would rank him high as a philosopher. And for whose good? We cannot look to this list without believing that Mr. Dalton is more likely to have lost money than to have gained by all his publications. In other countries, less happily constituted governments than our own would not have hesitated to put into the hands of such a man the means of prosecuting, with independence, those discoveries which in all after ages were to render his native land illustrious among civilized nations. Almost the only means of profit held out to scientific men in this country is lecturing,—an occupation not always adapted to individuals, who are yet well qualified for the prosecution of scientific research. Assuredly it does become the scientific journalist to complain loudly, that even this precarious encouragement to science is about to be taken away; for a system has begun of publishing lectures, taken for this purpose by professional reporters, who, by attending the same course twice, may copy a lecturer's manuscript as accurately as if it were before them; and the law has, in due solemnity, pronounced that this description of robbers, who prey upon the vitals of science, are not to be molested in their lawful calling in this free country. We have no fears for the progress of science; but, looking to the shameful neglect of their rights in this country, and to the munificent patronage which is extended to scientific men in other countries, we have fears for the share of glory that will fall to Britain. Amidst these complaints, however, it would be unjust in us to forget that in the case of Mr. Dalton, the neglect upon which we animadvert was alleviated by his being presented, through the hands of Sir Humphrey Davy, with a royal medal, when his own genius had established a fame which envy could no longer tarnish, and to which royalty could add no lustre."

BIOGRAPHY.

Art. I. *An Eulogium on the late* Wright Post, M.D. By J. Augustine Smith, M.D. Professor of Anatomy and Physiology in the College of Physicians and Surgeons. Delivered in the Chapel of Columbia College, at the request of the Medical Society of the City and County of New-York, on Wednesday Oct. 8, 1828.

It has not often happened, Mr. President, and Gentlemen of the Medical Society, that surviving friendship has been called upon to commemorate departed worth, that was modest, quiet, and unobtrusive. For in every age and in every country, the exalted in rank and the daring in action, have exclusively claimed and received, whether living or dead, the admiration and applause of their fellow-mortals. At particular times indeed, and under extraordinary circumstances, some exceptions to the absolute universality of this remark may have occurred. Thus, during that most wonderful era of Grecian history, which is destined, I apprehend, to stand for ever unrivalled in the annals of our race, philosophy and philosophers enjoyed a distinction which in no time to come can they again command. And at later periods, men who were willing to shed, or who did actually shed their blood for the faith which they professed, obtained from their adherents the applauses which they so justly merited. But it was from their own immediate followers alone that these martyrs derived their honours; the mass of mankind still reserving their plaudits for kings, statesmen, and above all, warriors.* Why these last should enjoy this pre-eminence would form a curious, and as far as my reading extends, an untouched subject of philosophical inquiry. But this is not the occasion for entering into such disquisitions. The fact is all that at present concerns us, and that I conceive to be as unquestionable as the sentiment on which it is founded is illusory, in the extravagance at least to which it is apt to be carried. That a just and frequently a very high reward should be extended to a successful military leader, is right and proper; but that a false and most mischievous importance has been attached to feats in arms, is, I think, demonstrable. Let us hope then, that this delusion, like so many others, will pass away, and that men will learn at length to appreciate as they should do, those more humble pursuits by which good is conferred without the pomp of state, and above all, without the miseries of war. Among these pursuits medicine must ever hold a high rank, and in that profession few persons in our country have filled so large a space as the late Dr. Wright Post. For twenty-seven years he was the leading practitioner in this city; and the history and character of a man who could for so long a period maintain such a station, cannot be, and as we shall soon see, is not devoid of interest, particularly to those who move in the path which he so successfully trod. I must premise, however, that of Dr. Post's early years my information is exceedingly scant, as I have been unable to procure many particulars of this portion of his life. The few which it has been in my power to collect, I will now detail.*

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* Time, however, does speedy justice to those who have nothing but political eminence to distinguish them; the fame of such persons being as evanescent as it is undeserved. With the really great among writers, philosophers, and patriots, the case is reversed—the lapse of ages but

Dr. Post was born, I understand, near Hempstead, Long-Island, about the year 1766, and was sent to a neighbouring

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brightening their reputation. The number of these immortals to be sure is but small; mere rank, however, will not confer a seat among them; the names of emperors, &c. though chronicled, only slumbering in our books. Successful leaders of armies fare better, I acknowledge, though even Alexander must yield the palm to Aristotle, and the Duke of Marlborough is altogether in the shade compared with Newton and Locke.

* As soon as I determined to comply with the request of the Medical Society by delivering this Eulogium, I took measures to procure the necessary facts. Circumstances beyond my control foiled my efforts, and hence the meagerness of my narrative.

school. What progress he made in his studies I do not know, but in 1782 he was a student of medicine with Dr. Richard Bayley, a gentleman whose daughter he subsequently married. In 1789, at the early age of 23 years, he was a lecturer on anatomy. In 1792, he was appointed professor of surgery in Columbia College, and immediately went to London to improve himself in his profession. On his return, he was made professor of anatomy in the same institution. He then took a second trip to Europe, for the purpose of procuring an anatomical museum, and brought back the one now in the College of Physicians and Surgeons, at that time undoubtedly, and perhaps still, the first on the continent. His lectures on anatomy were delivered in Columbia College until the medical department of that institution was merged in the College of Physicians and Surgeons, in the year 1813. In this last establishment he continued his labours, which were alike creditable to himself and useful to others, until 1826, when he resigned his anatomical chair, and the presidency of the College. To this latter office he had been appointed on the death of Dr. Bard, 1821.

The health of Dr. Post was always feeble. In 1815, he was obliged to cross the Atlantic for its improvement, and so much benefit did he derive from the voyage, that he was enabled on his return to resume his professional duties. With these he was occupied until the close of the last winter, when indisposition confined him to his house. Hectic fever supervened, and on the 14th day of June he was released from his cares.

It should have been stated, that in the year 1792 Dr. Post was appointed one of the surgeons of the New-York Hospital. This situation he filled with reputation to himself and greatly to the advantage of others until 1821, when no longer able to discharge the active duties of the place, he resigned it, but continued a consulting surgeon of the institution until his death.

Such is a brief statement of the circumstances which marked the life of Dr. Post. Not numerous, nor to superficial observers important, these circumstances may, nevertheless, afford matter for useful reflection to two classes of persons. First, to those who are fond of philosophising upon the more general events of this sublunary world. And secondly, to those who, although more indifferent to remoter speculations, are still anxious to draw lessons of practical instruction from the example of those who attain what all do seek—wealth, rank, and reputation. To the former, I shall offer some remarks connected with the progress and condition of the two more important branches of the healing art; with the latter, I will examine the character of Dr. Post in reference more particularly to the great success which attended his professional career.

I have already remarked, that Dr. Post was one of the surgeons to the hospital. In that capacity, he tied with success in the year 1813, the external iliac artery. In 1817 he was equally fortunate with the subclavian. This operation was then unparalleled in surgery; but since that time, such has been the improvement of this branch of our profession, that arteries still deeper seated have been reached. And I take occasion to mention, and I do it with pleasure as a just compliment to our city and our country, that a surgeon of New-York, Dr. Mott, is without a rival in aneurismal diseases. In one instance he passed a ligature around the inominata, and in another, he secured the common iliac—a feat as yet unequalled in any other quarter of the globe. On the latter occasion the event was favourable. A similar result, I have already observed, attended the operations of Dr. Post; so that we can now see why it is, as the bills of mortality prove, that the mean average duration of human life is extended. From the beginning of the world up to our day, patients like these would have been abandoned to their fate; but thanks to the genius of Hunter, and the intrepidity and dexterity of modern surgeons, the span of existence under such circumstances is now prolonged, and death, for a season is robbed of his victims.

If such be the improvement in one great department of the healing art, our attention is naturally turned to the other, and the question immediately presents itself, has an equally beneficial change taken place in that also? Is the curative power of medicine as much extended as that of surgery? The reply, I fear, must be in the negative; and if so, we cannot but ask ourselves, how has this happened? Why have not the physicians kept pace with the surgeons in meliorating the condition of man? In solving this inquiry, it is but fair to observe in the first place, that the task of the surgeon is comparatively easy. Of the maladies which he has to treat, by far the larger portion comes under the cognisance of his senses; his eye and his finger are most efficient aids; whereas the medical prescriber is, to a great extent, deprived of these facilities, and must rely upon inferences rather than perceptions.

In the next place, surgical complaints are much more uniform than diseases strictly medical. In the former, there is little scope for the operation of those perturbing causes to which I have elsewhere* alluded, and which in the latter, are perpetually modifying results in a manner which to us is altogether inscrutable. Hence the experience of one surgeon is a much surer guide to his brethren, and may be much more implicitly relied upon than the observations of a physician, supposing both to be equally desirous of stating the truth; and what is more uncommon, supposing the perceptive powers of both to be equally unperverted by preconceived opinions and hypothetical notions.

But after making all these allowances, it must still be acknowledged, that medicine has been less successfully cultivated than surgery, and the question of course recurs, whence this relative inferiority? I say *relative inferiority*, because I acknowledge that the improvement in medicine has not been small, though far less than in surgery; whence then the difference? It has arisen, I conceive, in this—the surgeons with a plainer path before them, have not disdained the line and plummet of sound philosophy; in other words, "They have experimented with caution and observed with care, and from facts thus ascertained, have deduced the conclusions which they warranted." Take the very disease, aneurism, of which we have been speaking as an example. Mr. Hunter having probably observed, that the main artery of a limb is sometimes obliterated spontaneously and sometimes destroyed by accident, and yet the member did not perish for want of a due supply of blood, determined to try the effect of tying such vessels when affected with aneurism. The event was favourable, and from that point surgeons have proceeded until they have attained the splendid results already mentioned. And how have the physicians acted? Why with a preposterousness almost inconceivable, they have entirely reversed this the procedure of the surgeons. Because their footing was unstable, they have been heedless; because it was dark and uncertain, they have been rash and confident; and because their steps were beset on all sides with responsibilities the most awful, they have but dashed on the more recklessly, plunging without chart or compass into oceans of conjecture and hypothesis, and pursuing phantoms which have forever risen and forever faded upon their eager and deluded sight. But enough of these follies. Relief is at hand. The march of common sense is manifest; and I look forward to the day when the dominion of philosophy and right-reason will be as absolute in medicine, as it has already become in all the other departments of human knowledge.

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* Vide page 172 of this volume.

The progress of surgery then has never been retarded by physiological systems, as they are sometimes called, or the happy process of advancing *from* that of which we know nothing, *to* that of which we likewise know nothing. This mode of progression, I may remark, must necessarily be adopted by all those who are determined to explain every thing in the animal economy. For there are many parts of the human system whose uses or modus operandi are at present altogether unknown, and there is a yet greater number of phenomena of which the causes are involved in equal obscurity. These obstacles, so long as they subsist, are of course insuperable to every one who thinks an observance of the rules of philosophising of any importance in the discovery of truth. Not so our theorists however. To them this state of double ignorance has proved the most convenient thing imaginable. *It has enabled them*, after their manner, *to find employment for every discoverable organ, and to furnish a solution for every conceivable difficulty.* The means by which these ends are accomplished, are two-fold. The first consists in assuming the facts from which the conclusion is to be drawn, and then from the conclusion establishing the facts, which like all arguments in a circle, proves any thing or nothing according to the acuteness and disposition of the reader.*

The second plan consists in the use of the argumentum ad ignorantiam. It is thus applied. Suppose inquiry be made of one of these theorising gentlemen, what purpose does any particular portion of the terrâ incognitâ of our bodies subserve? He answers, such and such are its uses or modes of action, according to the peculiar notions, whatsoever they may be, which he has to support. Very well, the querist rejoins, all this is very well, provided you can prove it. Prove it! exclaims the man of notions, Prove it! *Why if such be not the use of the part in question, pray what is its use?* If on the other hand, the cause of some phenomenon be required with regard to which he is just as wise as he was on the former occasion, he refers it with the greatest complacency and confidence to some viscus, of which little or nothing is known. Most commonly the nervous system is selected on account of its extent, importance, and our profound ignorance of the manner in which its functions are performed. But whatever part may be chosen, the same argument, *mutatis mutandis*, is had recourse to—if such be not the cause, use, &c. pray what is it? And such is the reasoning upon which human life and human comfort have been made to depend!

But from all such follies Dr. Post was entirely exempt. His cool† and clear head was not to be disturbed by "words without knowledge." Untrained, indeed, in the schools, he had that sound sense which no training can give, and which renders such training, so far as the individual is alone concerned, in a great measure unnecessary. And this brings me to the second head of my discourse—the intellectual character of Dr. Post—a character little apt to be appreciated as it merits by the world at large. For in this age of noise, bustle, show and glitter, something striking is always required, and if there be nothing to dazzle, many infer there is nothing to admire. Accordingly, it has been more than once observed to me, that Dr. Post was not an extraordinary man—nothing uncommon. No? How did it happen then, that at the age of twenty-three he was a lecturer on anatomy; that for nearly thirty years he was at the head of his profession in this city, and now that he is gone, not only is there no one prepared to succeed him, but we cannot even designate the person who is ultimately to fill his high and lucrative station? Why do not some of those who consider Dr. Post as so very common a personage, step into the place which he has vacated? The inducements are ample. Honour and emolument on the one hand, and the esteem and confidence of his fellow-citizens on the other, await the successful aspirant. Yet he appears not. Will it be said, that these things come by chance—that Dr. Dr. Post was *lucky*. Let no man thus solace his vanity. Every one may rest assured, that events are no more fortuitous in the moral than they are in the material world, and that in the one as in the other, every effect has its appointed and apportioned cause. To great permanent success then, though other things be requisite, corresponding abilities are indispensable. I say *permanent* success, because I acknowledge that

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* Could every person who undertakes to put forth new notions in medicine, be required to prove his premises before he proceeded a step further, what an infinity of discredit to the profession, and mischief to the public would be saved!

† To ordinary observers, Dr. Post's moral temperament bore the same stamp with his intellectual powers. But however cold in appearance, he

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had a fund of feeling, not lying upon the surface indeed, though when touched, of the warmest character. This feature I had suspected from some incidents which I had myself witnessed, and my conjecture was confirmed by a gentleman whose opportunities of knowing Dr. Post intimately were more ample than mine. That gentleman remarked to me, that in the chamber of death, under circumstances of unusual and deep distress, he had seen Dr. Post cry like a child.

by puff and parade, by sounding his own praise and by hiring others to "swell the note," a man may acquire a certain kind of notoriety. This is particularly easy in medicine, from the acknowledged incompetency of the public to judge of medical men. But this mushroom-fame never lasts. In the end justice is sure to be done, and mankind, though imposed upon for a time, finally reduce the vain pretender to that obscurity from which he so improperly and frequently so surreptitiously emerged. Now whatever may be thought of Dr. Post in other respects, here all will concur. All will concede that no man ever existed who had less recourse to fictitious or nefarious aids to bring himself into notice. No newspaper paragraphs announced his cases or his cures. No bawling sycophants proclaimed the wonders which he wrought, to raise a reputation on which they might subsequently batten. Precisely the reverse of all this was the fact. Every thing connected with Dr. Post was quiet and unobtrusive, perhaps retiring, and his success, as we shall see, was the result of very different causes.

I have already stated that he was for nearly thirty years at the head of the profession in this city. Now to acquire and maintain that station, two things are necessary—the confidence of the public, and the good opinion of the faculty. To obtain the former, mere ability will, in a great degree suffice; but to secure the latter, something further is required, virtue must be superadded, a flaw in the heart being here as fatal as a defect in the head. For so extremely delicate is the nature of the intercourse which takes place between medical men and their patients, and so easily and with such apparent security and advantage can propriety in this respect be violated, that a man if unrestrained by strong moral principle, infallibly does wrong. Sooner or later, however, his offence is detected; the offender is then opposed by his brethren, and if he persist, he is finally scouted from their ranks. But so unlimited was the confidence of, I believe, every practitioner in the city in the honesty of Dr. Post, that no patient could be more anxious to receive the benefit of his advice than the attending physician was ready to meet him in consultation.

Does not this at once explain what to some appeared so marvellous, the success of Dr. Post? Where is the mystery now? The public appreciated his talents, and the profession relied on his virtues. And what renders Dr. Post's character in this respect the more praiseworthy, is this, that while perfectly correct himself, he well knew how to rebuke and to punish any medical man who should infringe, with regard to him, those rules of good conduct and gentility which should regulate medical intercourse. Were the plan adopted by Dr. Post generally pursued, of arraigning, exposing, and denouncing at the tribunal of the profession, offenders of this description, there would, I am sure, be more harmony in the profession; since fear would then constrain those whom principle could not govern. I may observe, that the anecdote on which the foregoing statement is founded, I had from Dr. Post when on a visit to this city in the year 1819. His narrative impressed me forcibly with regard to the energy and decision of his character—qualities not often called forth in a man so cool, correct, and dignified as himself.

While on this part of my subject, I cannot avoid the gratification of mentioning the good understanding which always subsisted between Dr. Post and myself. At first in opposition, then joint professors, and lastly, independent friends; no hostile feelings were at any time manifested with regard to each other, nor did any, I am persuaded, ever exist. And now, by a train of circumstances the most singular and unexpected, it has fallen to my lot to hold up, however feebly, to the just admiration of his fellow-citizens, the only man with whom, in the whole course of my life, I have come into any sort of collision, whose talents and whose station could for a moment induce me at least to consider him as a rival. This may savour of pride. If so, I hope it is of honest pride; and the sentiment, if a compliment to the living, I have reason to believe was esteemed no reflection by the dead.*

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* Speaking of Dr. Post to a most esteemed friend when on my way to the south in 1814, I expressed what I have stated in the text. Circumstances have caused me to think that the remark reached the ears of Dr. Post, and that it was not disagreeable to him.

I have thus, Mr. President and Gentlemen of the Society, brought to a close my remarks upon the life and character of Dr. Post. From the account which I have given, two useful lessons may, I think, be deduced. First, that Fortune is not so capricious in her favours as many imagine; and secondly, to secure those favonrs, in other words, to attain the success of Dr. Post, we must first acquire his skill and tact, and, what is perhaps more difficult, certainly more rare, we must practice these qualities with his steadiness and virtue.

Before I conclude, it is proper for me to observe, that our profession is sometimes charged with want of attention to religious duties. How far this remark is well founded, I need not inquire. It certainly did not apply to Dr. Post, who I am assured, bowed to the fatal mandate in that frame of mind which becomes beings so frail and imperfect as ourselves.

Such then was Dr. Post as a man, a physician, and a christian; and I have only to add, that at the final adjustment, may we all be gathered where there is reason to hope that he will be garnered.

P.S. Some gentlemen, whose opinions the author highly respects, have represented to him, that the phraseology which he has permitted himself to employ, with regard to medical theorists, to whom alone his observations apply, is too strong. This may be so. But the author has so often seen and so keenly felt the mischiefs resulting from the propagation of unfounded and hypothetical notions in medicine, thas he has perhaps unconsciously acquired a morbid sensibility on the subject. Truth however, and particularly general truth, when promulgated with good motives, and with a just hope of producing good results, cannot surely be condemned, even though it be couched in language somewhat warm. Does the author then expect, he has been asked, that "good results" will ensue from what he has done? To this inquiry the author has replied, that the spirit of reformation is abroad in medicine as well as in every other department of human knowledge, and indeed in every other avocation in which mankind is engaged, and that he flatters himself he may accelerate a current which already sets, however feebly, in favour of sound medical principles. For the rest, the author is well aware that to attempt, nay, to aid a reformation, no matter what the subject to be reformed, is so certain to excite displeasure, that the task will never be attempted by him whose love of present applause is stronger than his sense of duty.

With these remarks the author takes his leave of medical theorists, adding, however, that his friends have suggested to him, that he himself from his propensity to generalize, is obnoxious to his own censures. If such be the fact, the author only adds one to the long list of those whose precepts have been better than their example, and he sincerely hopes that his brethren of the profession will profit by what is right, while, more fortunate than himself, they eschew what is wrong.

One further remark and the author will conclude. He takes it for granted that the statements contained in his address are essentially correct, because in that particular he has not heard them seriously impugned. His alleged fault is altogether different, and consists not in stating propositions which are erroneous, *but in making acknowledgments, which however well founded, are deemed derogatory to the profession.* Upon this point a solitary observation shall suffice. Such is the reliance of the author upon the value of medicine as a means of alleviating many of "the ills that flesh is heir to," and such is his opinion of the virtue and abilities of many of those who practise the profession, that he is at all times willing the profession itself, and these its practitioners, should stand revealed before the public, in the full confidence of their strength, assuming nothing which is false, concealing nothing which is true; and let him whose sensitiveness has been ruffled, proclaim his higher and juster views.

PARK PLACE, 14th October, 1828.

ART. II. *Notice of the late* WILLIAM HANDY, M.D. of New-York.

DIED in this city, September 22, 1828, William Handy, aged 62 years. He was born in Newport, Rhode Island, Sept. 21, 1766. After the usual preparatory study, under the late Dr. Isaac Senter of that place, he went to Europe in the autumn of 1785. He attended the different courses of lectures in the University of Edinburgh for the three succeeding sessions, and graduated as M.D. in June 1788, when he defended an inaugural dissertation, "De Fœtus humani nutrimene." After the completion of his collegiate studies, he passed over to the continent of Europe, and embarked from Copenhagen in Denmark for India, and did not return to his native place until the year 1790. In 1791 he began the practice of physic in Charleston, S. C., and was soon after appointed the resident physician of that city. This office he held until the death of his father, in 1794. On that occasion he was compelled to return to his native place, and his attention became therefore directed to other objects, which interfered with the immediate duties of a medical practitioner. Being thus engaged, he made a second voyage to India, and afterwards retired to a farm at Grotton, in the neighbourhood of New-London, Connecticut. In 1807 he resumed the practice of physic, which he pursued for several years afterwards in this city. In 1817 he was appointed by the Governors of the New-York Hospital, physician to the Lunatic Asylum, and continued to perform the arduous duties of this station, in this and the succeeding year, until ill health compelled him to resign the office. It was his custom, during this period, to record the most interesting cases that occurred in that institution; and had his connection with it continued, it was his intention to have pursued this object with the same fidelity and accuracy with which he began it. His conduct here claimed the decided approbation of the Governors of this charity; and it may with great truth be averred, that through the whole period of his medical career, both at Charleston and New-York, his deportment to his professional brethren and to the sick entrusted to his care, was such as to command universal respect. His judgment was clear and discriminating—his duties were fulfilled with conscientious rectitude. An exact period of sixty-two years intervened between his birth and his death, and more than forty years had elapsed from the period of his graduation. For some time previous to his dissolution, his health had been greatly impaired, and he was perfectly resigned to his fate. Among his collegiate associates, are now to be reckoned some of the most venerated members of the medical profession. W. H.

QUARTERLY HISTORY

OF

IMPROVEMENTS IN MEDICINE AND SURGERY.

Foreign.

ANATOMY AND PHYSIOLOGY.

An Account of a New Method of Embalming, and of Preserving Subjects for Dissection. By Sir G. S. Mackenzie, Bart., F.R.SS. L. and E., &c. In a Letter to Dr. Christison.—Sir,...Although still engaged in attending to experiments connected in some degree with the subject of this communication, the results of which may be beneficial to myself, as well as to the public, the preservation of dead bodies for dissection has become a matter of so great importance, that I feel I should do wrong were I to withhold any longer from the medical world such results as I have already obtained. As the discovery of a new method of embalming prompted me to attempt discovering means to preserve bodies in a state fit for the dissecting-room, I will proceed to describe it first; for, though it is needless to detail all the steps by which I advanced to what is in effect exceedingly simple, still it is proper to exhibit the principle on which I operated.

The object I was originally in search of was a substance which had a strong attraction for moisture, but no corrosive qualities. From previous observation I conceived that *molasses* would answer my purpose. On trying its effect on muscle, I was soon made aware that this article was likely to become more valuable than it has hitherto been, and that it might be applied to something more dignified than the manufacture of ginger-bread. A mass of flesh immersed in it was in a few days deprived of all its juices, and the fibres became rigid. It was reduced into a state resembling pemmican. During the process an acid was produced, resembling the pyroligneous in some degree, and most probably a modification of the acetic. This was made sensible by the taste of the flesh. After I had made many trials, a medical friend in Edinburgh immersed a hand and part of an arm which he had amputated, in thick molasses; and after a few weeks it was converted into most perfect mummy, surpassing any Egyptian specimen I have ever seen. On being removed from the molasses muscle becomes drier; and I have specimens in my possession that I consider as sufficient proofs that bodies, after being immersed in molasses for a sufficient length of time, washed and exposed to gentle heat, and then wrapt in cerecloth or oiled silk, may remain unchanged for any length of time. The power of molasses is such, that I feel assured that disembowelling is not necessary, (unless in cases of dropsy,) injection by the œsophagus, trachea, and rectum, and the introduction of a portion into the abdominal and thoracic cavities, being probably sufficient to preserve every part. Nor should I conceive it necessary to remove the brain; it will be sufficient to give access to the molasses by one or two openings. The molasses should be thick, that is, as free from water as possible, its fluidity being preserved. It acts in two ways, by its absorbent, and by its antiseptic qualities. • In all cases in which it is desired to send bodies for interment from a distance, or to prevent unpleasant effluvia, the application of this substance will be found equally, and I believe more effective than the expensive means hitherto employed.

Having observed the complete check given to putrefaction by molasses, I became anxious to apply it in such a way as to preserve subjects for dissection. In its undiluted state it was unfit; and on diluting it moderately with water, I found that with muscle a fermentation was produced, not a very active one, but sufficient for the production of so much of the peculiar acid as seemed likely to endanger the vascular and nervous structures, and even the muscular fibre. Proceeding to dilute more and more, I at last found that by doing so the tendency to fermentation was diminished, but not prevented to such a degree as I wished. I likewise found that it was important to exclude the air; but in attempting to do so there was risk, if gas were extricated, of the vessels giving way. After many trials I was induced to add salt to the solution of molasses; and the result of a trial of four months' duration makes me sanguine in the hope that my object is attained. But from the great scarcity of subjects, I have had no opportunity of making the *experimentum crucis*. I have operated only on beef and mutton. Such, however, are the results, that I have no hesitation in recommending the following method of preparing subjects for being carried to a distance, or for preserving such as may come directly to the dissecting-room, and are not immediately wanted.

The subject being placed in a cask, let it be filled with liquor made of one measure of molasses, one of salt, and fifteen or sixteen of water. The head of the cask may be put on, having two small holes in it, and after twenty-four hours liquor may be poured in by one of the holes, while any air in the cask escapes by the other, and then both may be plugged up and the cask forwarded to its destination. I have little doubt, if the cask be perfectly tight, of subjects coming in a good state from the West Indies or the coast of Africa. But abundance may probably be got without going quite so far. The specimens I have examined at the end of four months, and which have undergone no unfavourable change, are in a stone vessel closed by two folds of bladder; and I expect that at the end of the year they will be found unaltered. No apparent fermentation has taken place, and no formation of mould or scum, as when the liquor and flesh are left exposed to the air. The parts are quite soft and entire. I have informed Dr. Turner of the means to obtain the peculiar acid for examination.

One thing has encouraged me above all others to proceed; and that is the idea, that, when a subject has been impregnated with the liquor, the poison which proves fatal when an accidental scratch is given by the scalpel will be destroyed. This may be easily ascertained by experiment on some animal. The great distance of my residence from any medical school has retarded my progress. But I now commit the farther prosecution of the matter to those for whose benefit I have hitherto been experimenting, intending to confine myself to another application of molasses, also likely to be attended with benefit. The time has been when anything coming from a scientific amateur would be held in contempt; but I fear nothing of the kind in these days, when anatomy and physiology are reckoned branches of liberal education. I may, therefore, further express a hope, that ere long, by the use of the above liquor, dissecting-rooms will be entirely freed from all disagreeable smells, and the air of hospitals rendered salubrious. The latter by means of some of the liquor or diluted molasses alone being poured into all utensils for receiving *ejecta*, the effluvia from which propagate disease, as well as retard the recovery of patients. Nor is it unreasonable to hope that some trials will be made of the administration of molasses internally, and of its effects applied externally.

The specimen of mummy referred to above is in the possession of my friend Dr. A. Combe. I am, Sir, your most obedient servant,

Coul, 5*th May* 1828. G. S. MACKENZIE.

Note by Dr. Christison.—I have communicated this letter for insertion in the Edinburgh Medical and Surgical Journal, at Sir G. S. Mackenzie's request. I may add that I have seen the preserved hand in Dr. Combe's possession, and can bear witness to its complete momification. It was made last August, and no pains whatever have been taken to exclude the influence of the causes which promote putrefaction; yet it is not in the slightest degree decayed. 22d May.—*Edin. Med. and. Sur. Journal.*

Cold Injection for Anatomical Preparation.—If a mixture of varnish and vermilion has a small quantity of water mixed with it, it soon sets and becomes hard. This affords an excellent composition for anatomical injection, being very beautiful and very penetrating, (so much so, that it frequently returns by the veins,) and requiring no heat to be applied to the subject. The writer of this article frequently had, in the course of his medical education, the office of preparing this injection, of which he has, however, unfortunately forgot the proportions, and the particular nature of the varnish. It was, he thinks, a spirit varnish; the water was not mixed until the instant the injection was wanted, when it was well worked up with the syringe, and immediately thrown in; in the course of a night it would have set beautifully. This particular kind of injection was invented by an American anatomist of the name of Ramsay, and preserved as a valuable secret by him for the exclusive use of his own dissecting-room. The proportions, &c. of the ingredients will soon be attained by a few experiments.—*Brande's Quar. Journal.*

On the Mechanism of the Act of Vomiting. By MARSHALL HALL, M.D., F.R.S.E., &c. &c.—Two opinions have divided physiologists respecting the nature of the act of vomiting. It was originally and long thought that this act consisted simply in a sudden and forcible contraction of the stomach itself.* Afterwards Bayle, and Chirac, and more recently M. Majendie, considered that the stomach is inactive, and evacuated by being subjected to pressure by the simultaneous contraction of the diaphragm and abdominal muscles.

It appears to me that neither of these opinions is correct. M. Majendie distinctly proves by actual observation, and by the substitution of a bladder in the place of the stomach, that the contraction of this organ *is* not usually subservient or necessary to the act of vomiting. I refer to the interesting paper† of that eminent physiologist for the more full elucidation of this first question. I proceed to state such observations as appear to me to controvert the second, and to establish that view of this subject which I have myself been led to adopt.

It is obvious that, if vomiting were effected by a contraction of the diaphragm, it must be attended by inspiration. If this were the case, the fluids ejected from the stomach would be drawn into the larynx, and induce great irritation, events which are not observed. These events are, indeed, effectually prevented by an accurate closure of the larynx, a fact observed in an actual experiment by M. Majendie, who makes the following observation:—"Dans le vomissement, au moment où les matières vomies traversent la pharynx, la glotte se ferme très-exactement."* It is astonishing that this observation did not lead its acute author to see that under such circumstances, a contraction of the diaphragm, unless the thorax followed precisely *pari passu*, was impossible.

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* Such was the opinion of the great Haller.

† Mémoire sur le Vomissement, par M. Majendie. A Paris, 1813.

Complete vomiting has been observed, too, in cases in which the stomach had entirely passed through a wound of the diaphragm into the thorax, and in which it could not, consequently, be subjected to the action of that muscle.† In some experiments, vomiting was observed also to take place, although the diaphragm had been paralysed by a division of the phrenic nerves, or its influence subtracted by a division of its anterior attachments.‡

This view of the subject is still further confirmed by facts, which I now proceed to state, which prove that the act of vomiting is an effort, not of inspiration, but of expiration. This is obvious enough, indeed, on a mere observation of the state of the thorax and abdomen during vomiting. The larynx is evidently abruptly and forcibly closed, the thorax drawn downwards, and the abdomen inwards.

Such, indeed, appears to me to be the precise nature of the act of vomiting, in ordinary circumstances. The contents of the thorax and abdomen are subjected to the sudden and almost spasmodic contraction of all the muscles of expiration, the larynx being closed so that no air can escape from the chest, and the two cavities being made one by the floating or inert condition of the diaphragm. The mere mechanism of the act of vomiting differs little, therefore, from that of coughing, by which, indeed, the contents of the stomach are frequently expelled: the larynx in the former is, however, permanently,—in the latter, only momentarily closed; and there is, doubtless, a different condition of the cardiac orifice and of the œsophagus.

It appeared to me from these views of this subject, that if an opening were made into the trachea, or through the parietes of the thorax, the effort of expiration constituting the act of vomiting, would issue in expelling the air through these orifices respectively, and the evacuation of the stomach would be prevented; and I determined to submit the fact to the test of experiment. I took a little dog, made an ample opening into the windpipe, and gave a few grains of the sub-sulphate of mercury. The animal soon became sick. The first efforts to vomit induced a forcible expulsion of air through the orifice in the trachea. These efforts soon became very violent, however, and the stomach at length yielded a part of its contents. It was perfectly evident that the violent contractions of the abdominal muscles pressed upon the viscera of the abdomen so as to carry the diaphragm upwards to its fullest extent, and that at this moment vomiting was effected. The act of expiration was so forcible, that a lighted candle placed near the tracheal orifice was several times extingusihed. In a second experiment, a free opening was made into the thorax between the sixth and seventh ribs of the right side. The lung collapsed partially only. During the first efforts to vomit, air was forcibly expelled through this orifice, the lung was brought almost into contact with it, the stomach was not evacuated. But as the efforts to vomit became extreme, a portion of lung was driven through the thoracic opening with violence and a sort of explosion, and at the same instant the stomach yielded its contents. These experiments appear to admit only of one explanation, of one conclusion,—that the act of vomiting is a forcible expiratory effort, the larynx being firmly closed, and the diaphragm perfectly inert.

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* Mémoire sur l'Usage de l'Epiglotte dans la Déglutition, p. 3, note.

† Such a case is mentioned by Wepfer. A similar one was also recently witnessed by Dr. Webster and Mr. Hunt. The whole of the stomach was found in the thorax, having passed through a wound of the diaphragm. There was repeated vomiting of a substance resembling coffee-grounds.

‡ Œuvres de Car. Legallois. A Paris, 1824, tom. ii. p. 104.

It must be regarded as singular that M. Bourdon, by whom the action of the expiratory muscles, in their various "efforts," has been so well investigated,* should have adopted other views of the act of vomiting.

It is not intended to state that the act of vomiting is *simply* such as I have described. There are many facts which appear to show that the œsophagus is not without its share of influence in this act, and it is plain that the cardiac orifice must be freely opened; for mere pressure upon the viscera of the abdomen will not, in ordinary circumstances, evacuate the contents of the stomach. To effect this open state of the cardiac orifice, it is probably necessary that the diaphragm should, indeed, be in a relaxed rather than in a contracted state.

A singular and interesting fact was noticed by M. Majendie, of which he has not given any explanation. During the state of nausea which preceded the act of vomiting, in some of his experiments, air was drawn into the stomach. I am disposed to think that this effect was produced in the following manner: the larynx being closed preparatorily to the act of vomiting, an attempt at inspiration is made before the effort of expiration. In this attempt, air is drawn into the œsophagus, the larynx being impervious, and it is afterwards probably propelled along that canal into the stomach itself. It is not improbable too, that in some instances of vomiting, in which the action of the abdominal muscles was subtracted,† a similar effort of inspiration has drawn substances from the stomach into the œsophagus, which has eventually expelled them by an inverted action. Neither of these phenomena could result from any action of the diaphragm, and much less from contraction of the abdominal muscles. But it is easy, by closing the larynx and attempting to inspire, to draw air into the œsophagus. A similar act, if very forcible, might draw a portion of the contents of the stomach through the cardiac orifice.

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* Recherches sur le Méchanisme de la Respiration, &c. Par Isid Bourdon. A Paris, 1820.

† Œuvres de Legallois, tom. ii. p. 105.

Such then appears to be the nature of the act of vomiting. How different is this act from one in which the diaphragm does, indeed, contract suddenly, under similar circumstances of closure of the larynx, viz. singultus: the action of the diaphragm being an effort of inspiration, air is apt to be drawn into the œsophagus with considerable noise; and there is occasionally pain, not only about the insertions of the diaphragm, but about the closed larynx.—*Brande's Quarterly Journal.*

MORBID ANATOMY.

Instance of Obliteration of the Aorta opposite the Fourth Dorsal Vertebra. By Professor MECKEL.—A peasant, aged 35 years, previously in good health, robust, and well made, was all at once, on the 18th of January, seized with a sense of great debility, while carrying a sack of grain to market. He was carried to the hospital immediately. The symptoms of syncope and vertigo were dissipated in a few hours; to which succeeded gastric irritability, pain in the chest, total loss of appetite, bilious vomiting, the pulse remaining little altered. By the 6th day, the patient appeared to be completely cured—got up and was walking about, but suddenly fell down dead.

Dissection. On opening the thorax, the pericardium was observed to be filled with black blood, occasioned by rupture of the right auricle, which was softened in its structure. The aorta ascendens was found to be too much dilated for injection from that point—and, therefore, ligatures were thrown on the left subclavian and carotid arteries, while the tube was fixed in the arteria innominata. The injection was considered to be unsuccessful, and as the subject had been designed for a demonstration, it was thrown aside. On opening the abdomen afterwards, the vessels were seen injected, as were those of the lower extremities down to the feet. The examination being prosecuted, they found the aorta immediately below the arterial ligament, reduced to the size of a crow-quill, while a beautiful network of vessels were seen between the trunks, going off from the arch of the aorta, and the intercostals of the aorta descendens. The said intercostals were very much enlarged, and had produced grooves in the ribs. From this circumstance it was inferred, that the obliteration of the aorta was an affection of long standing, and could not possibly have dated from the late attack of syncope, six days previously. The man must, therefore, have not only survived the cause of the obliteration, whatever it was, but lived in good health for many years afterwards. On inquiry, all that could be learnt was, that this man had been very often ill in his youth; but afterwards had grown up strong and muscular.

Mr. Syme's Case.—When on the subject of obliteration of arteries, we may here notice a case recently published by Mr. Symes. An unhealthy man, aged 58, had been seized with mortification in the left leg, without any apparent cause, and where nothing but amputation appeared to present any chance of success. The limb was removed above the knee, and on examination, the popliteal artery was found firmly obstructed by a dense white coagulum, like that lining old aneurisms, and this obstruction continued all the way to its division into the peroneal and tibial arteries, which were also obstructed to the extent of an inch and a half from their origin, beyond which point they were healthy. The obstructed vessel seemed also to be somewhat contracted, particularly about the middle of the popliteal portion, where its coats were thickened. The vein was much thickened, so as to resemble an artery, but not obstructed. The man did well for some days, and half the stump was healed. But the breathing became oppressed, and he died. On dissection, the heart was found so soft and flabby, that the fingers could be easily pushed through its substance. The *right* internal iliac artery was firmly obstructed from its origin, as were the right and left internal iliac veins. Mr. Syme's opinion of the case is, that it was one of acute inflammation of the arteries, similar to the one recorded by Mr. Hodgson.—*Med. Chir. Review.*

Open Foramen Ovale in the Adult.—A young man, aged 18 years, was admitted into the Hardwicke Hospital, on the 6th Feb. 1827, as a fever patient, showing thoracic inflammation, with cough, difficult breathing, and bloody expectoration. By depletion he was rendered convalescent by the 14th, but on premature exposure to cold, he was seized with acute rheumatism, which became ultimately translated to the chest, especially to the heart, where great distress was felt. The more acute symptoms were allayed by active depletion; but on the 27th Feb. we find the patient with pain in the region, severe cough with croupy sound—copious muco-purulent expectoration—great difficulty of breathing. He now stated that he had been subject for some years to pain in the left side, especially after running, or any active exertion. The pulse was rapid and irregular—countenance pale—feet œdematous. "The stethoscope indicated acute bronchitis, with hypertrophy, and disordered action of the heart, the motions of that organ being tumultuous and irregular." He lingered till the 10th of March, when he expired.

Dissection. "The thoracic cavity was examined on the 12th. On opening it the lungs did not collapse, but the external appearance of this organ was healthy; the parenchymatous tissue exhibited some portions red, congested, and evidently inflamed; the bronchia vascular, and filled with a muco-purulent effusion.

"Pericardium contained about two ounces and a half of fluid, in which a considerable quantity of coagulable lymph was seen; inner surface of this membrane not inflamed, but that portion of it which is reflected over the heart showed marks of inflammation in several places; both ventricles were much enlarged, exhibiting considerable hypertrophy; the semilunar aortic valves showed recent fleshy or *cauliflower* excrescences attached to all of them. Both the ventricles were quite filled with a dense, white coagulum, firmly attached to their parietes. The commencement of the aorta appeared unusually narrow, in proportion to the heart and to the subject; that of the pulmonary artery greatly enlarged. The auricles of the heart were also in a state of considerable dilatation: but the circumstances which attracted attention most, was, that the foramen ovale was open; but the manner of this opening must be more fully described. The septum between the auricles exhibited an oval depression, or attenuated space of about one-third of an inch in diameter, guarded only by a thin membrane; but at one side it was evidently pervious and open, with a rounded and thickened edge. This membrane acted like a curtain or valve; when viewed or pressed from the left auricle it was closed, the curtain or membrane pressing close, and overlapping the opening; viewed from the right auricular cavity, or touched with a probe, it opened and allowed a free passage, fully as large as a goose's quill, compressed so as to exhibit an elongated or oval section. The blow-pipe exhibited the same difference of a closed or open space, as it was used from the left or right side of the auricular septum."

Dr. Crampton enters into a long train of reflections on the consequences which must have resulted from this valvular opening between the two auricles of the heart, including the "dark unrenovated blood,"—the "tumult and distress felt in the heart and respiratory organs, &c." But we see no evidence of this unrenovated blood, before the last fatal illness—nor even then; and as to the tumult and distress about the heart, we attribute *them* to the inflammation resulting from metastasis of acute rheumatism. Dr. Crampton tells us that in such a case as the above, there is only a part of the venous blood sent through the lungs for renovation, a portion going through the preternatural opening into the left auricle, "from whence it is prevented from returning by pressing back against, and closing the valvular curtain already described." We are much surprised at this reasoning. Does Dr. Crampton remember, that the two auricles act *at the same instant*, and not in succession? If the right auricle, indeed, acted while the *left* was passive, some blood might go through the valvular opening into the *latter*—and if the left acted subsequently, while the right was passive, the valve might still prevent the return. But there is no such thing. The two auricles act at the same instant, and both sides of the septum auriculorum are equally pressed, so that even when there is a wide and patent opening, there is very little intermixture of blood, where the heart otherwise preserves its relative proportions and capacities. It is where the strength of the one auricle predominates over that of the other, or where any obstruction to the natural issue of blood from an auricle takes place, that the foramen ovale produces the admixture in question. Thus, supposing there was a contraction of the opening between the left auricle and ventricle, such obstruction might cause some blood to pass through the foramen ovale, if it remained open. But in a natural and healthy condition of the chambers, we maintain, that such opening would produce little inconvenience, under ordinary states of the circulation. Such appears to have been the case in the above instance. There was no symptoms of blue disease—at least Dr. Crampton has recorded none. This explanation accounts for the occurrence of open foramen ovale, in people who had evinced no appearance of blue disease during life. In a postcript to this paper, Dr. C. appears to recognise the principle which we have stated—for after mentioning a patient, aged 34, who died in the hospital, and whose foramen ovale was found open, he says, the valve as in the other case, overlapped and protected the aperture, so that no blood was likely to pass, *unless the contracting power of one side of the heart prevailed over that of the other*. This is the view which we gave of the malformation in question, many years ago. The same reasoning applies to unnatural openings in the septum ventriculorum.—*Med. Chir. Review.*

PRACTICAL MEDICINE.

Case of Hydrophobia, treated with Superacetate of Lead. By CHARLES E. JENKINS.—William Thomas Hazlam, a fine young man, aged 22 years, residing at No. 8, Jones'-building, Gower's-walk, White-chapel, by occupation a labourer, had complained for three months previous to his fatal malady, of heaviness in the head, weariness, and constant propensity to sleep, which he attributed to having caught cold.

On Saturday, November 4th, in the afternoon, he complained of being ill, refused to take his tea; and at thirty minutes past eleven o'clock, first discovered an inability to swallow fluids, which he ascribed to flatulence, which, meeting the descending liquid, would not allow it to pass into the stomach.

He continued getting worse in this respect until eleven A. M. November 5th, when I first saw him. I then found him dressed, sitting by the fire: he complained of wind in the stomach, and lamented his incapability of swallowing liquids. In reply to the question, whether he felt pain, he said, "I am in no pain whatever; I can eat a crust of bread as well as ony one in the room, but I can't drink: my throat is not sore, and I don't know why I can't swallow." Pulse eighty; tongue furred, dry and parched; bowels regular; skin moist.

Two P. M.—Now the peculiar symptom, before only suspected, showed itself in all its characteristic intensity: on the instant of his attempting to take any liquid, to which he was constantly incited by the most tormenting thirst, a frightful convulsion of the whole body succeeded. He was now in bed, and had rolled the bedclothes round him, and girted them tight round his neck. The least breath of air, the undulation of the bedclothes (unless caused by himself,) or the slightest thing in motion, produced the utmost agony and terror.

Four P. M.—Being considerably worse, Dr. T. Davies of New Broad-street was called in at the patient's request, who recommended (the exhibition of liquid medicine being impossible,) a trial of the Plumbi Superacetas in substance, in doses of half a grain every half hour: this the patient managed pretty well, by placing the powder on his tongue himself, but he would not suffer any other person to attempt it for him; and even this simple method of receiving the medicine was followed on every occasion by a slight paroxysm, as soon as the powder touched his tongue.

Six P. M.—The disease greatly aggravated. Pulse 130; mouth still parched; thirst incessant, beyond any thing I ever witnessed before; he continually cried "Oh that I could drink quarts." His countenance expressed fear and horror, combined sometimes with fury, at others with the saddest melancholy.

Nine P. M.—Found him sitting on the bed, supported by two attendants, of whose breathing on him he continually complained. He would not suffer the candle to approach him, or to be moved. The sight of a sheet of white paper distressed him exceedingly. A small mirror being shown him, threw him into strong convulsions: on his recovery, being questioned as to the cause of them, he replied, "Because my face looks so white, I can't bear it.'*

He had drilled his two attendants into a sort of military observance, and this was the order of it: they holding him under each arm, the one held a tea-spoon containing a little milk, which, when the patient gave the word "Now," he endeavoured to throw into his mouth; but the moment it approached his lips, he threw himself backwards on the bed in the utmost agony of convulsion, which lasted generally twenty seconds. A tranquil interval of ten seconds succeeded; then suddenly and furiously he would cry out "Ready!" which meant that they were to raise him up again. After a few seconds, in which he strained his courage to another dreadful effort, the word "Now" would be repeated, the spoon again approach his lips, and the convulsions as certainly follow. This process continued without intermission or variation until four o'clock. In one of his tranquil moments he said, "I don't know what you think of it, but I call this killing work."

Eleven P. M.—His mouth, which had throughout continued parched, began to discharge saliva in abundance, which he blew forth with convulsive energy. He showed a mischievous inclination to blow his saliva upon the persons present: this he would apologise for in his calm intervals, and with a bitter smile, would request them to "keep out of the way next time."

A tendency to vomit, perhaps occasioned by the Plumbi Superacetas, disturbed him; spasmodic action of the abdominal muscles also frequently occurred.

It was a distressing operation to him to wipe off the saliva which collected about his mouth, and annoyed him very much. After many fruitless attempts, he would pass his handkerchief over his lips with the rapidity of lightning, but the convulsions, ever at hand, still more swift, would at the slightest contact, inevitably follow.

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* His face at this time was flushed.

A small portion of wine, not exceeding the third part of a tea-spoonful, having in the only felicitous attempt I witnessed, passed into his mouth, elicited from him loud exclamations of joy: "Oh! (said he,) how that drop of wine has comforted me! I shall be cured now; I feel myself a new man!" But this calm was of only three minutes' duration; and the longest interval he enjoyed was succeeded by a fearful exacerbation. Pulse 140, very small; body drenched in constant perspiration; face red and swollen.

This state of things continued, the paroxysms equally distinct and frequent, but weaker, until four o'clock, when all convulsions ceased, and he died about five o'clock, so easily that his attendants knew not the precise moment of his death.

A very strict inquiry was made by Dr. Davies and myself into all the circumstances of his life. His father and mother declared he had never been bitten by any animal during childhood; and he as strenuously denied it on his own part, and continued to do so until two hours before his death, when he confessed to his father that a dog kept by his master had, nine months before, bitten him in the instep, thigh, and hand. Being questioned as to the cause of his obstinate denial of the fact, he said, "*If I* had told those Doctors the truth, they would have caused me to be put to death."

This was not the language of unhinged reason, but a mere expression of a vulgar opinion, which obtains with some, that a hydrophobic patient may be with impunity destroyed.

During the whole progress of the disease, he felt no pain; his reason never deserted him; he had a craving appetite, but notwithstanding his assertion that he could eat a crust of bread, I never found that he could suffer any thing to pass his lips: his whole frame, like a highly charged electrical battery, required but a touch to be thrown into sudden and violent action.

Distant sounds did not affect him. In the room he would not allow conversation, though carried on in the lowest whisper. All white and shining bodies were held by him in utter abhorrence.

I have not been able to discover whether the dog had ever exhibited any rabid appearances: he is dead, having been starved by the neglect of the deceased, who had the charge of feeding him.

Examination of the body.—Externally: discovered a scar on the inner part of the left leg, corresponding with his statement to his father of one of the bites of the dog, across which branches of the saphena nerve extended themselves. The nerve presented no remarkable appearance.

Brain: Dura mater very adherent. Veins of the surface very much distended. More bloody points than usual in cutting the medullary substance. Ventricles nothing remarkable. Plexus choroides unusually pale. Serous fluid at the basis about two drachms. Under the tongue, nothing unusual.

Larynx and trachea red; fine vessels, in arborescent forms, extending down the latter; much light brown spumous serosity in the trachea.—Lungs and heart healthy.—Pharynx very red; redness suddenly ceasing at the commencement of the œsophagus, which latter presented a healthy appearance.

Stomach: Small quantity of fluid; arborescent redness, but not considerable, of the great cul de sac of the stomach.

All the intestines perfectly healthy.

Queries.—1st. May not the nerves be endued with a power of absorption?

2d. May not hydrophobia be produced by nervous absorption?

3d. May not the absorbent power be exceedingly slow, proceeding step by step until the morbific matter arrives at the spinal marrow or brain, when the disease makes its appearance?

It is observed of painters, that after using the brush a considerable time, a portion of lead constantly insinuating itself between the handle of the brush and the hand, that they become paralytic; but two years of constant exercise in painting is, as I am informed, the earliest period at which that disease manifests itself. This, I submit, cannot be accounted for either by venous or lymphatic absorption.

4th. If the foregoing positions could be proved, would they not lead to this practical result, that after the bite of a rabid animal, dividing the nerve supplying the part bitten, by cutting off the communication with the nervous origin, would prevent the disease; and if the slowness of nervous absorption could be established, might it not, even a *considerable time after* the bite, by dividing the nerve some distance from and above the part bitten, be still attended by a corresponding beneficial effect?—*Lond. Med. and Phys. Jour. July*, 1828.

On Diseases of the Spleen.—An elaborate essay on diseases of the spleen, particularly the vascular engorgement of that organ common in Bengal, is contributed by Mr. Twining, which is followed up by an account of the native treatment of diseased spleen by Mr. H. H. Wilson. Mr. Twining is of opinion, that inflammation of the peritoneal coat, or of the substance of the spleen, is comparatively a rare disease in Bengal, since the evidences of it are not found on dissection.

"Among the morbid appearances which are most frequent, we observe, 1st. A soft enlargement, resembling a great clot of blood, wrapped in a thin membrane; this varies in colour from black to brown or blue; and when we attempt to lift the spleen, the fingers are thrust through the membrane, and the organ breaks down in the hands, becoming a putrid gore. 2d. Next in frequency, we find opacities of the peritoneal surface from lymphatic deposit, thrown out during superficial inflammation; or possibly only the effect of repeated over-distension. 3d. Adhesions of the peritoneal coat of the spleen to contiguous viscera, which adhesions are by no means a general result of tumid spleen in Bengal. 4th. In a few old cases, we find a more indurated friable spleen, that breaks when handled without much force, like a piece of old moist cheese. 5th. And still more rare, is the cartilaginous lumpy hardness to which we give the name of scirrhus." Pp. 362, 363.

The other appearances more rarely observed are in persons long subject to agues,—an uniform pale white or milky colour of the peritoneal coat, which is more than usually tough and wrinkled, while the subject of the spleen is soft and flexible; and in those who are carried off by purging, after having long suffered from diseased spleen, numerous small ulcers are found on the internal membrane of the great intestines, while the peritoneal coat appears either quite healthy, or paler than usual.

We have premised the pathological changes to the symptomatology and etiology of the disease, because they serve as the foundation of all reasoning upon the subject, and discriminate the essential from the accidental phenomena.

Enlarged spleen is a frequent consequence of protracted intermittent and remittent fever, wherever these diseases occur. Great heat is not essential to the production of enlarged spleen. It occurs most frequently when the cold nights set in, after the termination of the rains, or *just* at the period when concentrated exhalation and considerable diurnal changes of temperature coexist.

"Vascular engorgement of the spleen is characterized by a pale, and often lurid or cadaverous countenance; the *tunica albuginea* of the eye has a pale blue or pearly appearance, similar to that observed in hectic patients; the skin is generally dry, and there is some morbid heat of surface, especially over the belly. There is tumour and tenderness in the region of the spleen, with tension of the epigastrium, which often extends across to both hypochondria. The patient suffers from thirst, though his tongue is generally clean and moist; sometimes it is of a pale and glossy hue, having its surface marked with deep fissures; more rarely it is of a morbid red colour. The stools are generally scanty and frequent, with tendency to constipation; urine pale and copious; the pulse is quick and occasionally hard; appetite indifferent, and digestion imperfect. The debility is greater than would be at first apprehended from observing the size and appearance of the patient.

"Agues frequently return while these symptoms remain, and the hot stage is protracted, and generally peculiarly distressing." p. 355.

"This febrile or irritative stage occurs less frequently than the simple congestion, in which the tumefaction of the spleen is not only greater, but more distinct, because there is less general elastic tension of the belly. There is less tenderness on pressing the spleen. With this condition of the local disease, we find that the pulse is low and weak, face of a pale and lurid colour, tongue clean and moist, skin cool, with a peculiar dry feel, like a thin satin loosely laid over the soft cellular structure; there is an hectic eye, and pale urine, as in the irritative stage, but less of pyrexia. There is generally more appetite, but assimilation is imperfectly performed, and nutritious food does not restore the strength. Agues relapse more rarely than in the irritative condition, except at the lunar phases, or when the bowels become obstructed, and the cold stage is most distressing from great distension of the spleen." p. 356.

"Either the irritative or the congestive stages of disease before described are occasionally followed by the *indolent tumid spleen*, which is attended with little or no pain on pressing over that organ; while the spleen, though not exceedingly large, is often very hard, and its extent well defined. There is less appearance of debility, more appetite for food, and digestion is more perfectly performed than in the two foregoing forms of disease. In this indolent stage, there is often a dry cough, attended with pain in the left side of the chest, occasionally shooting to the centre of the scapula, or to the shoulder." p. 358.

In females, amenorrhœa is an early attendant in most cases of tumid spleen. Mr. Twining lays great stress upon the influence of tumid spleen upon the function of respiration. He ascribes the black stools not to disordered bile, but to the secretion of carbon from the intestines, to compensate for insufficient decarbonization of the blood by the lungs and skin; and suggests as the subject of inquiry, how far the muscular debility and despondency may depend on the quantity of black or carbonized blood that is collected in the spleen, and thus detained in contact with the great solar plexus of nerves. But we think he goes too far when he attributes the taking away of the breath on descending into the cold bath, and the pains of side induced by violent exertion, to extension of the spleen.

The treatment generally found useful is a steady perseverance in a course of purgative medicines, combined with bitters and some preparation of iron, with a mild and rather abstemious diet. This will commonly succeed in the congestive form. The irritative state requires the application of leeches to the side, or sometimes venesection; and when the febrile symptoms are more than usually urgent, the cure proceeds more favourably when the patients were purged two or three days before the bitters and chalybeates were begun.

Mr. Twining is greatly adverse to the administration of mercury in cases of enlarged spleen; and even considers it very requisite to place some restriction on the habitual exhibition of calomel as a domestic remedy in every disposition of children, and more especially in the sequelæ of protracted fever. The most obstinate and intractable cases of tumid spleen occurred in patients who had previously used mercury; and he strongly combats the opinion of those who consider that enlarged spleen should be treated in the same way as enlarged liver.

A peculiar state of the constitution accompanies the vascular enlargement of the spleen, which renders it unequal to bear the action of mercury without great hazard of inducing alarming debility and depression of vital power, with tendency to sloughing of the lips, cheeks, and gums, which, when once commenced, generally terminates fatally. He is disposed, however, to think, that after subsidence of an enlarged spleen, when the symptoms of debility have ceased, and the functions of the skin have been restored, mercury may be used without danger.

Mr. Twining says he has given iodine a fair trial in six chronic cases of tumid spleen, and is satisfied that it is of no service in that disease.

The native treatment of a disease so common is worthy of consideration. Their general plan is to apply the actual cautery over the diseased spleen. The patient is ordered a low diet, with injunctions to take but little drink, and to eat no butter, milk, oil, or fat. A mixture of aloes, garlic, and vinegar is given daily, and about a grain of sulphate of iron with each dose. The quantity of aloes is regulated so as to produce three stools in twenty-four hours.—*Edin. Med. and Sur. Journal.*

Memoire sur le Ramollissement de l'Uterus. Memoir on Mollescence (*Morbid Softening*) *of the Uterus.* By S. G. Luroth, M.D. [*Hosp. la Maternité.*]—It is only of late years that Mollescence, or morbid softening of the living structures, was discovered to be one of the most important, and unfortunately, one of the most common structural lesions to which the human frame is subject. The brain, the lungs, the spinal marrow, the nerves, the muscles, the bones, the heart, and other parts, have been found in this pathological condition, and have been the subjects of accurate investigation. The uterus is the organ to which we are now to direct our attention.

The mollescence of the womb is more frequently partial than general. It more commonly occupies the internal surface, and the cervix—though occasionally it is found penetrating through the entire substance of the organ. The mollescence presents several *degrees*, blending insensibly into each other. In the first degree, the parts are simply softened or very flaccid, generally with serous, or sero-sanguineous infiltration into the interstices. An example of this kind was observed by our author in the Hospice de la Maternité, in the month of March 1827. A young and strong female had been carried off by puerperal fever, a few days after delivery. On dissection, not only the uterus, which had a large empty bag, but all the other organs, especially those of a muscular structure, as the heart, were in a state of extreme flaccidity. The tissue of the uterus was infiltrated with serosity, and very lacerable. Internally it was lined with a dark-coloured viscid coating, exhaling a putrid odour. The ovaria were softened, flaccid, and infiltrated. The heart was in a similar condition. There are not wanting examples of this kind in works on puerperal fever.

In the second degree, the structure of the uterus is still farther altered. It will scarcely bear handling without reduction into a pultaceous mass. The following is an example observed at the Hospice de la Maternité, under the care of Professor Deneux.

A female, aged 27 years, of good constitution and previously healthy, was safely delivered of her second child, 4th April, 1827, after a labour of seven hours. She complained of a pain in her side the same day, and was bled, both generally and locally; but some symptoms of pulmonic affection continued till the 17th of the same month, when she complained, for the first time, of burning heat in her throat. The night was passed in great agitation, and on the following day, the tongue was observed to be swelled, and an erysipelatous eruption covered the neck and shoulders. As there were some signs of gastric derangement, an emetic was prescribed, and an oily purgative. On the 19th the patient complained of great general debility, but no local pain. Having exposed herself to cold by throwing off the bed-clothes, the erysipelas disappeared rather suddenly, and was succeeded by diarrhœa, urgent thirst, and cough. 22d. Cephalalgia was added. 23d and 24th. Showed symptoms of low fever; but without any pain or tenderness of the abdomen. She lingered till the 26th, when she expired, never having complained of pain in the abdomen or the uterine region.

Dissection. The arachnoid was opake—many red points in the brain when sliced—no effusion in the ventricles. There was some yellowish serum on the thoracic cavities—lungs sound—heart flaccid. There was some yellowish effusion in the peritoneal cavity, but the peritoneum itself was healthy. The mucous membrane of the cœcum and colon was intensely inflamed; liver enlarged and softened; the uterus was so soft that it would scarcely bear handling, especially its anterior parietes.

In two cases of puerperal fever, our author observed a similar mollescence of the uterus; and cases are quoted from Lippich and Nauman, showing the same conditions.

In the third degree of uterine mollescence, the disorganization amounts to almost a liquefaction, or reduction of the viscus to an inorganic pulp. Generally, this state is only partial—life not continuing till the whole organ is so changed, especially in acute cases. For the most part, the stomach, heart, or other viscera, partake in these mollescences. The tissue thus softened, sometimes preserves its natural colour; at other times it is pale. The parietes of the uterus are more frequently in a state of atrophy than hypertrophy, when they are morbidly softened.

The symptoms of this uterine mollescence are very vague, and but little known, especially those attendant on the invasion of the disease. A sense of weight, or constraint in the pelvis; dull pain in the hypogastrium, augmented by pressure; uterine hæmorrhage; suppression of the lochia (if in the period of accouchement); febrile exacerbations, &c. are the usual accompaniments of this disease; together with a remarkable prostration of the mental and physical powers, and a presentiment, on the part of the patient, that death will ensue. Our author thinks, and the conjecture is rational, that if this disease be going on during utero-gestation, there will be slow and laborious parturition, with probability of a dead fœtus, uterine hæmorrhage, and other accidents attendant on bad labours. It is also not improbable, that mollescence of a portion of uterus may be very accessory to that dreadful occurrence, laceration of the organ. This last supposition, indeed, is nearly converted into a certainty, by the cases of ruptured uterus put upon record by various authors. The rupture of other organs also, as the heart and stomach, in cases of mollescence of these parietes, is favourable to this supposition.

The progress of mollescence of the uterus is sometimes acute, sometimes chronic. The duration, of course, is very various. It may continue for many years if the affection be partial, and if nothing occurs to hurry forward the disease. Without being able to say any thing decisive as to its comparative frequency, our author thinks that it is a malady by no means very rare. The proximate cause is doubtful—it is not always the same. The mollescence is sometimes a primitive affection—sometimes the effect of other diseases, as of inflammation. In the first instance, it may be owing to a kind of defective nutrition—in short, it may be a kind of atrophy of the organ, unaccompanied by any super-irritation or excitation. There is little doubt, however, that this mode of production is infinitely more rare than that which results from inflammatory action in the part, acute or chronic. Our author is also of opinion, that there is another cause for this mollescence of the uterus, and that is, a putrid or depraved state of the blood itself. Many cases which occurred to him at the Maternité, are in support of this doctrine; but at present, he declines entering farther on this path of investigation.

The prognosis is unfavourable; but more or less so, according to the degree of intensity, and extent of the disease. The diagnosis is very difficult, and must be gathered if possible, from the few symptoms already described. In most cases, the disease is only recognised after death. This, however, was the case in many other diseases now well known by living indications, but formerly undistinguishable from want of investigation. The same observations will apply, no doubt, to the treatment. It must be purely *symptomatical*—that is, the actual phenomena present must be attended to, and combated if practicable. In some cases the disease, when situated about the os, or cervix uteri, can be recognised by manual examination. It is then for us to determine by the existing symptoms, whether it is of an inflammatory nature, or the effect of atrophy, and act accordingly.—*Med. Chir. Review.*

CHEMISTRY.

On the agency of Carbonic Acid in the Decomposition of Water by the contact of Iron.—The last number of Brande's Journal, (No. 6, New Series,) contains an article on this subject by Dr. Marshall Hall. The object of the paper is to prove, that water does not undergo decomposition at an ordinary temperature by the contact of iron, when both are perfectly pure; and that in every case in which water is apparently decomposed by iron, there is necessarily the agency of carbonic acid. In order to establish these positions, the following experiments and observations are detailed.

The bulb of a retort was filled with small portions of iron, and the interstices between them, together with the greater part of the tube of the retort, were then occupied with freshly-boiled distilled water, while a small portion of olive oil was poured into the tube to exclude the atmospheric air. The retort was then placed in an inverted position, and so remained a long time before any chemical change was observed. At length bubbles of gas were seen to ascend to the upper part of the bulb of the inverted retort, and the pieces of iron became tarnished. This effect was observed to take place sooner in a similar experiment in which no oil was poured into the retort, and from which the atmosphere was consequently not excluded.

As these results were supposed to be modified by the influence of a minute quantity of carbonic acid retained by the boiled water in the first experiment, and by a larger quantity absorbed from the atmosphere in the second; in order to neutralize entirely the effect of this substance, a small lump of lime was dropped into the retort without oil. From this moment the evolution of gas entirely ceased, although it had been previously proceeding for many days uninterruptedly.

To determine the agency of the gas still more distinctly, a quantity of iron was first placed in contact with lime-water, and also with water and lime-water mixed in the proportion of four-fifths of the former to one-fifth of the latter. There was not, in either case, after the lapse of a long time, any oxidation of the iron or evolution of gas.

In another experiment the iron was placed in water in which some freshly-calcined magnesia had been mixed. In this case, as in the former, no chemical changes took place.

These experiments were afterwards contrasted by one in which the iron was placed in water impregnated with carbonic acid gas. Here there was a speedy and rapid disengagement of gas, which was proved to be hydrogen by being exploded with a mixture of atmospheric air. A small portion of lime being dropped into the retort, the disengagement of gas immediately ceased.

In some of the experiments in which the greatest pains had been taken to expel the air from the water by long boiling, and to exclude it afterwards, several months elapsed before the slightest evolution of hydrogen was observed; but this eventually took place in all cases in which carbonic acid was not entirely absorbed by an alkaline earth.

It has long been known, that when pure iron is placed in contact with distilled water, which has been freed as much as possible from its gases by long boiling, the decomposition of the water is effected with extreme slowness; indeed, so tardily is this effect produced, that M. Thenard has suggested that it may be an effect of the chemical agency of light. The same author has also suggested, that the decomposition of water by iron may, in some instances, be connected with the evolution of a galvanic action, excited by a circle formed by the iron, a portion of the oxide and the water. M. Guibourt concludes from a series of experiments made by himself, that iron does not decompose water when in a small proportion to the fluid, but that a decomposition is effected when the relative quantity of the metal is greater.

Such are the views which have been entertained on the subject; but "no person," says Dr. Hall, "appears to have suspected the necessity for the superadded agency of the carbonic acid. That this phenomenon is not dependent upon the agency of light, is proved by the fact of its being totally prevented by the addition of a small quantity of lime-water, or of calcined magnesia. And that it is not an effect of galvanism, is proved by its being prevented or immediately arrested by the same means. It is equally certain, from the same facts, that the relatively large quantity of the metal has no influence upon the result; this is further obvious, from the fact that the water is decomposed, however small the quantity of iron, if carbonic acid be present. In the experiments of M. Guibourts, it is obvious that the carbonic acid was not totally excluded, as it is impossible to deprive water entirely of this gas by the longest boiling."

The experiments here detailed were all made at the ordinary temperature of the atmosphere, at every season, and some of them remained for repeated observation during a year and a half.

In the conclusion, it is suggested that the principles elucidated in this paper, may possibly be useful in the arts, and especially as they may furnish the proper method of preserving polished iron goods free from tarnish or rust, since this object would be effectually attained by covering their surfaces with lime mixed with water.

MEDICAL JURISPRUDENCE.

Employment of Iodine and Bromine as tests of the vegetable Alkalies.—M. Donné lately presented to the French Academy of Sciences, a memoir on this subject, which was referred to Chevreul and D'Arcet. They reported, that the anticipations of the author which extended to the certainty of these respective bodies being unequivocal and distinctive tests of vegetable alkalies, had not been sufficiently verified by experiments. They however applaud his industry, and in consideration of the novelty of the subject, recommend a continuance of his labours. We find it mentioned in the last No. of the North American Medical and Surgical Journal, that on the application of iodine and bromine in vapour to the vegetable alkalies, distinctive colours, consisting of various tints of yellow, red, and violet, are developed.

QUARTERLY BIBLIOGRAPHICAL NOTICES.

1. *Chemical Table, exhibiting the Elementary Substances, their forms, combinations, prime equivalents, and combining quantities.* By JAMES HADLEY, M.D. Professor of Chemistry in the College of Physicians and Surgeons of the Western District.

A large sheet bearing this title has recently been published by Professor Hadley, and it will, in our opinion, be a highly useful one to the chemical student. From the following explanation attached to the table by the author, our readers will be able to form an idea of the amount of information which it contains, and of the manner in which this information is conveyed.

"The simple substances are arranged in the left hand column, beginning at the top with oxygen, and ending with yttrium. To the right hand of any individual substance in this column are the compounds formed by that substance, and those which precede it in the order of arrangement. The simple substances, and their combining quantities, are known in the compounds by the colours which represent them in the left hand column. Where the colours are not separated by a line, the combining quantities are not determined. ○ Denotes a gas: ⊙ a liquid. The figures in the upper part of a space representing a body, if it be a solid or liquid, show its specific gravity. If it be a gas, they show the weight of 100 cubic inches in grains. The figures on the lower line of a space express the prime equivalents of the simples, their combining quantities, and the representative numbers of the compounds."

The ingenuity displayed in the construction of this table, is fully equalled by the neatness and beauty of its mechanical execution.

2. *The Transylvania Journal of Medicine and the Associate Sciences. Edited by John Esten Cooke, M.D. Professor of the Theory and Practice of Medicine; and Charles Wilkins Short, M.D. Professor of Materia Medica and Medical Botany in Transylvania University.* Nos. 1, 2, 3, for February, May, and August, 1828. Lexington, (Kentucky) 1828.

We have perused the numbers of this Journal with pleasure and profit; and we rejoice that the physicians of the south-west are uniting their efforts in the present laudable undertaking. Among the valuable papers may be particularly specified those of Professor Dudley on Injuries of the Head, and on Hydrocele—and various articles on the epidemic and endemic diseases of that part of America, by Professor Cooke and Drs. Yandell, Harrison, and Travis. Phrenology meets with a favourable reception, and the writings of its leading advocate (Professor Caldwell) are analysed and commended.

It is to be regretted that the courtesy due to an infant Journal should have been at all overlooked. From a sheet accompanying the last number, we observe that it has not been unnoticed. A proper reproof is administered.

3. *Transactions of the Albany Institute.* No. 1. June 1828.

The following advertisement is prefixed to this publication.

"The Albany Institute is composed of two Societies, which for various periods of time have existed in this city—*the Society for the Promotion of Useful Arts in the State of New-York*, and *the Albany Lyceum of Natural History*. Circumstances not necessary to be explained, led to an union of effort and property between their members and other citizens, and as a necessary consequence, to an enlargement of the objects of investigation. The present title of the association was adopted, under the idea that it would comprise the pursuit, both of science and literature in their most extensive sense.

"It has been deemed advisable to commence the publication of some of the papers read before the society. The members do not flatter themselves that they will greatly add to the general stock of knowledge—they may hope however, that their efforts will tend to disseminate a taste for it."

The present number contains the following papers, viz. 1. *Table of Variations of the Magnetic Needle, copied from one furnished by the late* Gen. Schuyler to S. De Witt, Surveyor General. 2. *On the Luminous Appearance of the Ocean*, by Lieut. Thomas R. Ingalls, U. S. Army. 3. *On the Geographical Botany of the United States*, by Lewis C. Beck, M.D. 4. *On some modifications of Electro-Magnetic Apparatus*, by Joseph Henry.

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4. *Some account of the origin, objects, and present state of the Pennsylvania Hospital.* By William G. Malin, Clerk and Librarian of the Hospital. Philadelphia. 12mo. 1828. pp. 24. (*From the Author.*)

This pamphlet is particularly interesting from its containing an authentic account of the insane patients treated in the Pennsylvania Hospital. Out of 25,071, admitted since its opening on the 11th of February 1752, 3487 have been cases of insanity. "Of these about 240 are designated as caused by intemperance." We extract the following table from page 13.

Cases of Insanity from Feb. 11, 1752, *to April* 26, 1828.

The following Table, the result of a very careful examination of the Hospital records, exhibits the number of Insane patients of each sex, together with the proportion cured, relieved, &c.

Total.		*Cured.*	*Relieved.*	*Removed by friends.*	*Eloped.*	*Died.*	*Remain.*
Males,	418	910	452	444	188	364	60
Females,	1069	344	250	224	42	162	47
	3487	1254	702	668	230	526	107

"A large proportion of the deaths have been from old age or diseases having no necessary connection with insanity.

"The number of insane persons in the house is generally about one hundred and ten."

5. *Compendium of Operative Midwifery, or manual and instrumental operations of preternatural Labours, reduced to the greatest simplicity; preceded by an investigation of the mechanism of natural Labour. From the French of Julius Hatin, M.D.* By Richard Tuite, M.D. former President of the Royal Physical Society of Edinburgh. New-York. 12mo. pp. 171. 1828.

6. *The Western Journal of the Medical and Physical Sciences.* Edited by Daniel Drake, M.D. late Professor of the Theory and Practice of Medicine in Transylvania University, &c. 3 Nos. for April, May, and June 1828.

The publication of this Journal is another evidence of the growing spirit and enterprise of our western professional brethren. It is conducted with much ability by an Editor who has long since established a high character for talent and erudition. We hope it may have a long and prosperous career.

INTELLIGENCE.

UNIVERSITY OF THE STATE OF NEW-YORK.

College of Physicians and Surgeons, New-York, Aug. 11th, 1828.—The twenty-second session of the College will commence on the first Monday of November next, after which the several courses of Instruction will be continued by the respective Professors, viz.

John Augustine Smith, M.D. on Anatomy and Physiology.

Alexander H. Stevens, M.D. on the Principles and Practice of Surgery.

Joseph M. Smith, M.D. on the Theory and Practice of Physic and Clinical Medicine.

Edward Delafield, M.D. on Obstetrics and the Diseases of Women and Children.

John B. Beck, M.D. on Materia Medica and Medical Jurisprudence.

John Torrey, M.D. on Chemistry and Botany.

At extra hours, and without additional expense to the student, lectures will be delivered on Medical Jurisprudence and Botany, by the Professors of those sciences.

In the various departments of the College, every facility is afforded for the acquisition of professional knowledge.

The Anatomical Museum, heretofore one of the most extensive in the country, has become recently still farther enlarged by the addition of private collections and new preparations; the specimens of Morbid Anatomy particularly, are daily increasing. In practical Anatomy the opportunities will be commensurate with the utmost wishes of the student.

In the Obstetrical Department cases will be furnished as heretofore to such students as may desire them, to be attended under the direction of the Professor of that branch.

The Dissecting-room will be open during the day and evening, under the direction of the Professor of Anatomy.

By permission of the Directors of the New-York Eye Infirmary, all the students of the College will be entitled, during the lectures, to gratuitous admission to that institution.

The Trustees cannot omit this opportunity of reiterating their obligations to the Regents of the University and to the Legislature, for the continued care which they have manifested for the science of medicine in general, and for the medical institutions of this state in particular. During the last year, the latter body passed the statute which will be found below. It is now published for the information of medical students, who will observe that the only legitimate medical institutions in the state, are those which are connected with the University, and that no degrees granted in this state are valid licenses to practice medicine and surgery, except those emanating from the Regents of the University.

By order of the Board of Trustees,
John Watts, Jun. M.D. *President.*
Nicoll H. Dering, M.D. *Registrar.*

Sec. 21. The degree of Doctor of Medicine conferred by any College in this state, *shall not be a license* to practice physic and surgery; *nor shall any College have or institute a Medical Faculty to teach the science of medicine in any other place than where the charter locates the College.*

University of the State of New-York.—The Regents of the University have conferred the degree of Doctor of Medicine on the following gentlemen, on the nomination of the State Medical Society.

Dr. Thomas Brodhead, of Columbia county.
Dr. John D. Henry, of Monroe County.
Dr. Eleazer Gedney, of Orange county.

The University of London has announced its opening for the session of 1828-9. No less than twenty-two Professors are appointed, and several vacant chairs are still to be supplied. The Professors in Medicine and its adjunct sciences are as follow:

Anatomy, Granville Sharpe Pattison, Esq.
Dissections and Demonstrations, James R. Bennet, Esq.
Physiology, Charles Bell, Esq.
Comparative Anatomy and Zoology, Robert E. Grant, M.D.
Nature and Treatment of Diseases, John Conolly, M.D.
Midwifery, David D. Davis, M.D.
Materia Medica and Pharmacy, Anthony Todd Thomson, M.D.
Chemistry, Edward Turner, M.D.
Botany, John Lindley, F.R.S.
Still vacant, Surgery, and Mineralogy, and Geology.

Dr. Watson of the Middlesex Hospital, lectures on Clinical Medicine, and Mr. Charles Bell on Clinical Surgery.

Flora of Java and the adjacent Isles. Extract of a letter to Jeremiah Van Rensselaer, M.D., dated Bruxelles, June 12, 1828.—Although the Indian Archipelago has been for ages the field of research for European naturalists, and particularly for those of Holland, whose colonies occupy so large a part of that vast district, it is not to be denied that its natural history in general, and its botany in particular, is still but imperfectly understood. This should be in a great measure attributed to those difficulties, almost insurmountable, which the pernicious influence of the climate opposes to those naturalists who have endeavoured to penetrate into the interior of Java, and to the neighbouring islands. The encouragement held out by government to scientific researches has, in a measure, been frustrated by the diseases incident to the climate.

The labours of Rheede and Rumph, under the patronage of the old East India Company, have been fully seen and appreciated in the publication of their magnificent works. More lately, Noronha of Spain, Thunberg of Sweden, De la Tour of France, and Horsefield of America, have successfully laboured in science, during their residence in Java, under protection of the Dutch government. Few scientific expeditions have been so happily conceived, or so wisely instructed, as that on which the King of Holland, some years ago, sent Messrs. Reinwardt, Kuhl, and Van Hasselt. Unhappily the sea engulfed the most rich and precious collections formed by the expedition: two of the naturalists composing it, Kuhl and Van Hasselt sunk in the midst of their labours, and Reinwardt was forced by the loss of health too soon to renounce his useful researches.

All these disasters did not deter Dr. Blume, who was chief of the medical department in the East Indies. He has devoted to the Flora of those countries all the moments which he could spare from important and multifarious occupations. By long perseverance and at great expense, he has formed an *Herbarium*, consisting of about three thousand species, mostly from Java, and he has published a list of them in India. He was not less susceptible than others to the insalubrity of the climate; and since the loss of health forced him to return to his home, he has employed himself in classifying his specimens and in arranging his new genera and species. He has the assistance of Dr. Fischer in preparing his work for the press; and will embody the discoveries of Reinwardt, Kuhl, and Van Hasselt, which will render the work more complete. Drs. Blume and Fischer intend to make it similar, in all respects, to Humboldt et Bonpland's "Plantes Equinoxiales." I must not forget to say that it is written in Latin: its publication will form an epoch in the history of Botany.

Writ for the Medical Convention of 1830.—Whereas the Convention that was held at the city of Washington, in the month of January 1820, for forming a Pharmacopœia for our United States of America, did resolve that the President of that Convention should, on the 1st day of January 1828, issue writs of election to the several incorporated State Medical Societies in the northern, middle, southern, and western districts of the nation, requiring them to ballot for three delegates to a General Convention, to be held at Washington, on the 1st day of January 1830, for the purpose of revising the American Pharmacopœia; and whereas the several institutions as aforesaid, are by the same authority, requested to forward to the President, on or before the first day of April 1829, the names of the three persons so chosen; with sundry other provisions contained in the historical introduction to the work, to which the reader is referred.

Now therefore, I, Samuel L. Mitchill, by virtue of the power vested in me by the Convention of 1820, do hereby give notice to all the incorporated Medical Societies, Colleges of Physicians and Surgeons, Medical Schools, and Faculties of Universities and Colleges, and all other authorized Bodies, that they choose proper persons to represent them in the General Convention to be held in January 1830, for revising the Pharmacopœia.

Given under my hand, this first day of January, 1828, at the city of New-York.

Samuel L. Mitchill, President.

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NEW-YORK

MEDICAL AND PHYSICAL

JOURNAL.

OCTOBER, NOVEMBER, AND DECEMBER, 1828.

Lecture delivered before the County Medical Society of New-York.

By Francis O. Doucet, M.D. of New-York.

Had medicine a settled and permanent basis, its theory would be ever the same, and its practice would have remained unchangeable from one age to another. Physicians, both ancient and modern—those of all countries and of every school, would agree upon all subjects of importance; but we are far from possessing this advantage in the science with which we are occupied. In fact, it offers us but a series of systems from the time of its origin to the present day. Is there one medical generation which has not had a ruling theory in favour—a system announced and supported under the pretended auspices of truth, and which has nevertheless appeared absurd and pitiful to succeeding generations? The arches of the different schools have re-echoed for three thousand years with the voices of the framers of systems, all of them insisting that they had penetrated into the sanctuary of nature, and were about to proclaim her secrets for the good of humanity. This was done in the earliest epochs of the science, it is done in our days, and the same course will probably be pursued through the succession of ages to come.

Having been called by a vote of this society to present a memoir upon some subject of medical science, it has appeared to me that some interest might be derived from the history of the different systems which have existed in France since the commencement of the present century.

I shall pass rapidly over the fundamental laws of the system of Bichat, which commences a new era in the history of medicine. I shall develope in succession the principles of the doctrine of Broussais, and shall add some reflections on the spirit of Eclectism.

Medicine is coeval with man. The period of its first appearance, and the history of its developement, are lost in the obscurity of time, and amidst the uncertainty of fables. First cultivated in the East it passed into Egypt, thence to Greece, and finally to western Europe. Absurd and mysterious among the Egyptians; empirical and superstitious among the Greeks, it finally acquired the title and dignity of a science under Hippocrates, who, in establishing his doctrine, concealed in its bosom the germ of all the systems, and the most incoherent discrepancies.

Already the dogmatics wish to reach the truth by hypothesis—the empirics desire to banish from practice all reasoning—Asclepiades creates a medicine founded upon the philosophy of corpuscles—Themison reduces all diseases to three forms—the pneumatics attribute life to air wandering in the vessels—Galen restores crisis and coction—the Arabs transfer to medicine the formulas and abstractions of Aristotle—the alchemists burn the books of the ancients, and seek one remedy for every indication.

Van Helmont adds to the doctrine of the archæus his chemical agents—the geometricians seek to demonstrate all the functions of life by algebraical signs—the philosophers see nothing in them but attraction, cohesion, elasticity, force, counterforce, &c.—the mechanists only see levers, points of support, &c. Hoffman, notwithstanding his system of living solids, calls to his assistance a crowd of mechanical ideas—his contemporary Stahl contends that the rational soul of man presides over the preservation of his existence—

Boerhaave unites in his system the humoral pathology of Hippocrates, the atoms of Asclepiades, the solidism of Themison, the mechanism of Bellini, and the chemical theory of Van Helmont, which thus terminates the first series of revolutions which agitated the cradle of medicine.

The name of Boerhaave had ceased to resound in the medical world, and upon the ruins of his system were reared imposing names in different countries of Europe. The time had passed when a great name could subjugate all minds, and enslave to its will the opinions of contemporaries. Every country possessed men of the first merit—every branch of the healing art had its chiefs—Camper and Gaubius in Holland, Stahl in Germany, Fontana and Spallanzani in Italy, Haller and Tissot in Switzerland, Paquier in Spain, Cullen and Hunter in England, and Bordeu, Barthezi, Lorry, and Vicq D'Azir in France, seemed to aspire each to distinct pre-eminence.

Attracted by the reputation of Dessault, Bichat went to Paris to increase the number of his pupils: Dessault dies and Bichat enters the arena. After spending some time among the scattered remains of systems which had crumbled to pieces, to examine the spot where he could best erect the edifice of science—a vast career presented itself before him: a glance at the assemblage of material bodies showed them divided into two great classes. On one side, he saw inorganic bodies subject to constant and immutable laws; on the other, organic or living bodies governed by laws that constantly varied. Leaving to the philosopher the study of inert matter, he assigned to the physiologist the history of living matter, and dedicated his time and exertions to its examination.

Too long subject to the principles of philosophy, physiology had wandered amongst the wastes of systems and hypotheses. Notwithstanding some ingenious ideas of Van Helmont and Stahl, the science had too long received from this slavery the most dangerous influence. Regenerated by the efforts of Bordeu—enlarged by the experiments of Haller—protected by the authority of Bartheze, it still floated unsteadily in the midst of opposite opinions, when Bichat, wresting it for ever from the physical sciences, fixed it upon an immutable foundation; and then regarding with a fixed eye the object which he sought to obtain, and pointing to his disciples the route which they ought to follow, he died in the midst of the laurels which were awarded to him. The life of Bichat was but a rapid passage—his existence but a flash of lightning; but his name will not the less remain imperishably engraved on the annals of science. Posterity, which has already commenced for him, has judged irrevocably upon his merits. Time has done justice to the light errors which escaped him in his youth, and to the iniquitous judgments pronounced against him. The admiration of France has vindicated his memory from the base disdain of envy; and the light which his works have shed on the science of man, far from being extinguished with him, shines brighter every day.

It is to Bichat that belongs the glory of having traced in medicine that road which alone can lead to truth; it is he who, profiting by the works of many celebrated men, has lessened the incertitude and hesitation which retarded its progress. As if he had been aware of the premature death which awaited him, he did not waste his early years in combatting the errors which darkened his views, or to overthrow the idol which usurped our homages—he pointed out the truth, and innumerable disciples followed in his path; the enthusiasm which he communicated to them still remains, and under banners the most opposite, an unanimous cry is raised to proclaim aloud the fame of Bichat.

The spirit of analysis then reigned in philosophy, and was introduced in medicine; it had already given success to the work of Pinel. Bichat, in applying it to anatomy, made an immortal discovery; in applying it to physiology, he produced a seducing but imperfect system. His predecessors had considered life, the vital forces, and excitability in mass; he on the contrary, turned all his efforts to trace out the presumed cause of the vital phenomena. Guided by this principle, he studied in living bodies the different phenomena which they presented, to attach to them their different properties.

Perceiving that the animal felt, he recognised a property in it which he called *sensibility;* he saw that the animal moved by repeated contractions, and he attributed to it a property which he called contractility. These two great phenomena of the animal economy, perception and movement, the two grand properties of sensibility and contractility, absorbed all his mind; with them he explained all the phenomena; he believed he could account for all the movements of life. See with what complacency he analyses them; under how many relations he studies them in order to connect them with all the known physiological facts. The cerebral nerves are the organs of sensibility; they possess sensibility in the highest degree—*animal sensibility*. But the other organs which transmit impressions received are nevertheless not insensible because they reject some substances and receive and appropriate others. They perceive, (says Bichat) but their sensibility is simply organic. The exterior muscles contract and move under the power of the will; they possess contractility in the highest degree—*animal contractility*. The interior muscles evidently contract independently of the will, they have therefore organic contractility. But all the organs are the seat of motions inappreciable, it is true, but real, since they compose and decompose continually. "Well," says Bichat, "I will call it an *insensible organic contractility*."

These are the terms of his analysis, at the same time insufficient and exaggerated. Insufficient, for all the phenomena of life, are far from being confined to perception and motion.—Exaggerated, for impressions not perceived are not perceptions, and organic sensibility is not sensibility.

Having laid down these fundamental ideas, and proceeding always in the same spirit of analysis, Bichat considered life in general, and formed two grand divisions—the one which he named animal life, because by it the animal is connected with exterior bodies; and the other—organic life, by which he lives within himself. This division of life in general, according to the expression of Bichat himself, into two particular lives, drew upon his system of physiology, criticisms which should have been chiefly directed to a badly chosen expression. It is true there are not two lives in an animal, but, there are two kinds of phenomena quite distinct, which correspond to these terms. Hence we see that this division does not constitute the system of Bichat, but was merely an appendage of it. The true system of this author consists in the admission of the vital properties already mentioned.—We will now see some new proofs in the manner in which he considers diseases.

There are two conditions, says he, to the phenomena of life—the state of health and the state of disease. Hence two distinct sciences—physiology, which treats of the first stage; pathology—which has for its object the second. The history of phenomena, in which the vital forces have their natural types, leads us as a consequence to that of the phenomena, where those forces are altered. It is then to the alteration of the vital forces or properties that he attributes diseases; according to him the vital properties are inseparable from the tissues, and inherent in the organised substance. It is not the alteration of the tissues which constitutes disease; it is the alteration of its powers, without which it could not live—without which it could not be diseased. The living tissues and the vital powers are inseparable in his system, and to say that the power is destroyed, is to say that the tissue is also.

This definition thus explained, it remains to determine in what manner the vital properties can be altered. It is here that Bichat is opposed to Brown. Some authors, says he, see in diseases only strength or weakness, consequently in remedies only debilitants or stimulants. This is true in part, but false when made too general. It is not only by an increase and decrease of action that they are operated on, but they also are changed in their nature. It is necessary, therefore, that the remedies should not only increase or diminish the vital powers, but also restore them to the natural state from which they are perverted.

This theory manifestly excludes the Brunonian dichotomy, and it consecrates the theory of specific remedies, directed against one modification of vital powers in preference to another.

It is in a no less formal manner that Bichat condemns the exclusive theories of the solidists and humoralists. He could not point out in what consists the vitality of the fluids, but he recognised it as an incontestible fact He regarded their change as the cause of a great number of diseases, and admits even the existence of virus, which may be introduced into the animal system. Finally, Bichat acknowledged general diseases, such as most of the fevers which attack almost simultaneously all the organs. This discovery of elementary tissues prompts him to locate and circumscribe more and more the seat of the diseases to one tissue, to the exclusion of another—the nervous, muscular, serous, mucous tissues are affected separately, and present each their different pathologic effects—their different symptoms of particular grades. A diseased tissue may influence the neighbouring tissues, which he calls sympathy, but the primitive affection is never spent but upon one. In France these ideas are now familiar; but when they were first announced, they produced a great sensation. It was in this, in fact, that consisted the originality of Bichat's views on pathology. It was by this that he brought about that revolution of which I propose to develope the results in the doctrine of Broussais.

We could hardly expect that the Parisian school, governed as it was by Bichat's system, a system purely physiological, (for its author hardly had time to point out all its possible applications to pathology) guarded against all systematic influence in the study of diseases by the authority of Pinel, could remain long in a situation which, in opening a free career to their progress, secured it from the rambling of a sectarian spirit. Vitality in physiology; eclectism in medicine, properly so called—such was in France the situation of this science for the first fifteen years of this century.

Broussais enters the theatre, announces himself the disciple of Bichat, declares himself the heir of his glory, the exclusive propagator of his principles: endowed with a discovering mind and a spirit for analysis, he employed by turns experiment and reasoning—observation and analogy. It was not with vain formulas, with charms and panaceas, that he sought to usurp our homage. It was by observation, by the study of the laws of life, that he overturned the edifice of science; but it is, (says he,) to erect it upon a more solid foundation.

Medicine has undergone a revolution in France, through M. Broussais, which is, on some accounts, a happy one; on some others it has been very unfortunate—but quite worthy of attention. This physician seems to me to have been badly judged, not through ignorance, but from a spirit of party.

His partisans considered him as a genius, the final founder of medical science, theoretical and practical; his detractors, as a sectarian in whom pride held the place of genius, and audacity of force; who had acquired partisans by flattering their mediocrity, and by depressing science to their level.

Pinel enjoyed in France an influence which time had already sanctioned, and public teaching was directed in the spirit of his doctrine, which was still a young child of the nineteenth century, and contemporary with the general anatomy. Broussais therefore did not come exactly apropos, but had to seek the elements of his success in himself. It was first necessary to attack suddenly, without groping, without transition; timidity would have injured him, concessions would have paralysed all. No half way measures could be taken, and he must of necessity establish himself by force, and especially avoid borrowing or making concessions to Pinel, whom he supplanted, or to seek arms and support in foreign and ancient doctrines. So as to mark well the extent of his mission, he goes back to all periods of the history of medicine; he more than throws doubt upon Hippocrates, he attacks Galen, Boerhaave, always covered with glory—Cullen and Sauvage will not escape him; but he especially contends with Brown, whose influence was yet felt in therapeutics, and whose grand and profound doctrine had overcome a crowd of subsequent doctrines; arrived at the termination of the last century, he combated Barthez and the Montpelier school; finally placing himself in the midst of his contemporaries, he used all his efforts to overthrow the Pinelian school. All this was but the effect of a stroke of his pen.

Broussais found more difficulty in combating the Brunonian doctrine than the others. This doctrine is profoundly philosophical, theoretically speaking. After having reigned over Europe, it still exercised a great influence in therapeutics. Broussais applied much time and pains to this, for his own doctrines offered some certain resemblance to that of the Scot, and it concerned him, therefore, to show what and where they differed upon important points. These are the principal propositions which he asserted and maintained contrary to Brown. 1st. That excitability is not the same in all the organs—it is not in more or in less, in totality, in all the system. 2dly. Diseases are never primitively general. 3dly. Diseases from weakness are not the most numerous. 4thly. The stimulant treatment is seldom indicated. 5thly. The success of the Brunonian practice is illusory, false, or wrongly interpreted. M. Broussais calls the Brunonians incendiaries. However, well instructed men, and good practitioners full of candour and veracity, attest to the good effects of stimulant remedies in many diseases. To these M. Broussais opposes his own observations to the contrary, and the result of his method. How shall we decide this question?

He denies the conclusions from facts badly observed, or seen through a false theory. He is right: but the facts which he invokes himself, who will answer to them? It is this unfortunate versatility of pathological phenomena which throws so many physicians into a discouraging scepticism. Some fly to eclectism, but how maintain it. Eclectism is nonsense in medicine. The word signifies to choose amongst the most reasonable systems, or the most reasonable things in each system, and the best method of practice. How shall the well-advanced practitioner choose, and how answer for the value of his choice? By reasoning? Yes, reason upon this immense quantity of facts of all kinds—read twenty thousand volumes—scan the whole on the rules of criticism, historical and medical, and then indicate *a priori* what is to be believed and what is to be done, and you will be found the inventor of the most novel and surely the most extravagant system known. Go then to experience. Whose experience? You have but your own, since that of time past and of time present are contradictory. Here is all that can come of eclecticism. Here then is the practitioner reduced to his personal experience, and to renew on his part the work of ages, which has taught him nothing. This is not true of all the branches of medicine: the experience of ages has left floating on the ruins of systems, some rules of practice generally admitted by every one.

I ask pardon for this digression, which is not exactly in place, and will now endeavour to lay before you, the fundamental ideas of the medical system of Broussais.

Monsieur Broussais' principles on physiology, pathology, and therapeutics, are laid down in three separate works:—The History of Chronic Phlegmasiæ—The Examination of the Medical Doctrines—and a Treatise on Physiology applied to Pathology.

The history of chronic Phlegmasia is throughout a book of observation, wherein the most correct ideas on pathological phenomena, are combined with imperfect fragments of an ill-founded theory.

His examination of the Medical Doctrines is composed of two very distinct parts. The first is a collection of aphoristical propositions on physiology, pathology, and therapeutics; it is the code of a new medical doctrine. This code is drawn out without either commentaries or discussion; its form is dogmatical, and its language concise and laconic. The second is altogether polemical. The undertaking was bold, and both its conception and execution required uncommon abilities, boldness, ingenuity, firmness of character, perseverance, and immense scientific resources. Broussais possessed them all, and he used them to advantage.

His Treatise on Physiology applied to Pathology, is but an ordinary work; in this, Monsieur Broussais is neither the judicious observer he appears to be in his first work, nor that expert controversialist that he is in the second. This being the last work that he has made, he was compelled to mould it upon the assertions, either accurate or contradictory, that had escaped him in his former publications, and when his ideas and principles had not yet been established on solid foundations.

This physiological doctrine then may be considered under three heads: that of physiology, that of pathology, and that of therapeutics. These are the three studies which, distinct in their object, mutually assist and support each other. In all the systems of medicine we see them follow in this order. The theory of health determines the theory of disease, and this the mode of treatment. M. Broussais has also followed this logical march, to form a systematic whole.

Firstly, Life examined in all the tissues which are endowed with it, is not revealed but by one single phenomenon, producer of all the other phenomena, irritability, which is common to all the tissues.

Sensibility is not a vital property, it is but the functional result of irritability; we only perceive because we are irritable, and sensation is only the perception of the exercise of irritability. Irritability is the property which the living tissues have to move themselves, on the contact of some stimulus. It is not made known to us but by that movement, for without that movement we should not know that it existed; the movement of the living tissue when our eyes can see it, is a contraction. Analogy must force us to admit that it is one also in those cases where it is too minute to be visible. Life is in the tissues; it is only revealed by the movements, and the movements are contractions: contractility may serve then to explain all the vital actions.

Secondly, Life is only maintained by excitement: if both the exterior and interior stimulants are wanting for our organs, they cease to live. This excitement begins with the conception of the fœtus and finishes only with death. Each animal tissue requires to be put into action, to receive the preliminary impression of a special stimulus; thus the blood is the most general stimulus of the economy; the brain deprived of its presence is interrupted in its actions. Air is the stimulus of the lungs, light of the eye, sound of the ear. Many appropriate fluids are carried into the most minute folds of the system to produce continual excitement. From this vast concourse of stimulation results universal reaction of all parts of the economy; this reaction is life (or the exhibition of life.) This reaction in phenomena which results in its mode of exercise, is only contractility brought into play, that is to say, an innumerable multitude of contractions disseminated throughout the whole extent of the living tissues, and repeated each instant.

Thirdly, Life or contractility is not spread equally through the system. Certain tissues—certain organs are endowed with it to a high degree, others to a less; it is distributed to all points of the animal in different proportions. This inequality in the proportions of vitality, produces a crowd of differences in the nature and energy of the phenomena, of which each tissue is the theatre. The action of stimuli is in coincidence with these differences of vitality. The tissues possessed of most life, are also most easy to stimulate, and the stimulation received by them is then transmitted to all the others; in all cases, energetic or obscure, contractility is always identical in its nature, for from its exercise always results a contraction, and several contractions only differ from each other by their extent.

Fourthly, The material phenomena which follow stimulation bearing upon a living tissue, are, contraction of the fibre of this tissue, and the flow of fluids to the point stimulated—strong or weak, applied to an organ very irritable or not, stimulation brings the same organic modification. For example:—A foreign body touches the skin; at the same instant the fibre contracts, and there is an excess of fluid. This assemblage of phenomena constitutes a vital erection; this vital erection is repeated in the nerves, and is reproduced in the brain; hence results a sensation agreeable or painful. The desire to approach or avoid the cause of this sensation manifests itself, a new vital erection takes place in the brain, and gives birth to the will; which returns vital erection to the voluntary nerves, and these to the muscles, which are moved to obtain the definite result desired. Here are several actions vital and moral: passive impression from contact, sensation, desire, will, muscular motion, all these phenomena are the result of a series of vital erections identical in their nature. In fact they are all reduced to contraction of the fibre and an accumulation of the fluids; the minute modification which gives rise to a pimple on my skin, causes also the birth of ideas in my head, and the state of the brain during profound meditation, is the same as that of the stomach during a laborious digestion.

Fifthly, The organic phenomena of the solids conducive to stimulation, attest there the presence of life. Every where that they show themselves there is life, and every where that they show themselves, they are of the same nature, the only difference arising from more or less.

Sixthly, Stimulation exercised upon one point of the system is soon repeated upon other points through the intervention of the nerves, this is what is called sympathy. Excitement is never uniform in the economy; when it is increased in one organ it is diminished in another; it does not quit one region but to overcharge another region, and does not accumulate in one tissue but to abandon another tissue. A continued communication is required: it is required to maintain the equilibrium of the functions. This is what constitutes the state of health.

All these principles of physiology are immediately applicable to pathology, thus:—

1. Disease results from the irregularity of the functions, and this irregularity applies to the suffering of one or several organs. The functions are deranged because the organs which give rise to them experience some unfortunate modifications in their vitality. Vitality may be augmented or diminished, but cannot be modified in any other manner. Its quantity may vary, but not its quality; when examined in its action in the tissues, it is not revealed to us but by a contraction of the fibre with accumulation of fluids, and so forth. In the

state of health, an exact proportion is established between the stimuli and the tissue excited; the innumerable reactions of which life is composed, are executed in an order admirably balanced; but sometimes this order is broken and this equilibrium destroyed, by various causes. Sometimes the stimuli are too strong, sometimes they are not enough. In these two cases the irritability augments or diminishes, and hence disorder in one or more functions; at other times the excitability is increased, or is weakened, at some point, and then the natural stimulus is not sufficient, or overpowers it; hence suffering again in the organs and functional derangement.—In this case, contractility always exists; it presents itself always with the same phenomena which follow its exercise, without which death would result; but badly strengthened, or enfeebled, it no longer produces the same results.

2. The pathological state, therefore, is no other than an increase or diminution of the physiological. Take for example the fact given above. The foreign body applied to the skin is a hot fire, the fibrous contraction is very strong, the fluids rush there in abundance, a great heat is manifested; similar phenomena in the nerves and in the brain; this organ scarcely coloured perhaps in the first place, is now gorged with blood to a great extent; the resulting sensation is a severe pain; the will, instead of acting in a regular manner, may be destroyed, or manifest itself in its stead in convulsions or paralysis. The apparent phenomena are the same in either case, on the skin, in the nerves, the brain, in the voluntary muscles—in the first case they are contained within moderate bounds necessary to the natural exercise of the functions; in the other they surpass the bounds, and the functions are deranged. Arrived to this anomalous degree, the excitement is called irritation, the irritation becomes the producing phenomenon of all the other morbid states, as the natural excitement is that of all the physiological operations; the excitement carried to a great height, takes the name of inflammation; normal excitement, irritation, over-irritation, are only the same state in different degrees. We may, to comprehend the subject, suppose a ladder on which each step

will represent a degree of excitement. In a certain series of degrees excitement is in the natural manner, and preserves the name of excitement, which is health; carried to the last furthest degree of this series, excitement takes an unnatural manner, it then is called irritation, which is disease, and all the pathological changes are produced by irritation, or by the deficiency of excitement.

3. In all cases irritation is always identical in its nature; it is, wheresoever may be its seat, or the cause that determines it, or the number of sympathies which it awakens, always characterised by the flow of fluids. Irritation always commences in one single organic system, and then is communicated to another. It is primitively local. The nature of the irritation does not change in its migration from one point to another; it is reduced always to an augmentation of the phenomena which attest the state of life. The exaltation of one or several organs always produces a languor of several others.

4. Irritation may be continued or intermittent.

5. Irritation fixed upon the capillary blood vessels, and accompanied with pain, heat, tumefaction and redness, is called inflammation. If the capillaries open at the beginning of the complaint, and blood escapes, the irritation is no longer called inflammation, but hemorrhage.

Irritation fixed on the lymphatic vessels attracts but the white fluids; there is tumor, but neither redness, nor heat nor pain; this sort of irritation takes the name of subinflammation.

Irritations of the nervous part are called neuroses; they are only characterised by pain, which, however, is sometimes wanting.

6. There are no general diseases, the essential fevers are gastro-enteritis, simple or complicated; that is to say, the simultaneous inflammation of the mucous coat of the stomach and small intestines.

7. There are no specific diseases; all those that have received that name are referred to irritation or debility. Deleterious substances, miasma, virus, with all their modifications,

action the living tissues only in two ways. They either augment or diminish their vitality; the diseases which result from their action are but irritations or sub-irritations.

8. Debility is most often the product of irritation, and sometimes constitutes the disease alone; consecutive debility is not a disease. It is united to an irritation, produced by it—continues and ceases with it. Primitive debility has only a secondary step to perform in the pathological code; it is not very manifest but in scurvy, in several asphyxias, in the termination of abundant hemorrhages, in old age, after long abstinence—but still, in all these cases, it is often accompanied by the irritation of one or several organs.

From this pathological theory result the following principles:—

1. Since there are but two classes of diseases, diseases of irritation and sub-irritation, there are in therapeutics but two indications—to excite the part debilitated, to reduce the part over excited.

Remedies are then divided into two classes, some excite, others depress the vital powers. These are sedatives and stimulants. Sedatives are positive or negative. The positive are those, which, applied to the living tissue, relax the vital phenomena by direct sedative action. They are very few, or perhaps do not exist at all. The negative are those which depress vitality by the subtraction of those stimulants which put it in play and continue it: they are circumscribed to bleeding, the application of cold, and diet.

2. To reduce positively and negatively, is the indication which offers almost in all diseases. The antiphlogistic treatment may be exercised in three ways positively, by the use of sedative agents applied at the irritated point. Negatively by the abstraction of stimulants; finally, by revulsion.

The method by revulsion consists in transporting upon an organ less important, the irritation fixed upon an organ indispensable to life. The revulsion is founded upon this principle of physiology, that vitality is only accumulated at one point to abandon another, and it is necessary that the remedial invitation should be stronger than the morbid irritation, if it is weaker, it submits to the other and augments it. A crisis is but a revulsion produced by nature.

3. The antiphlogistics alone cure all the irritations, whatever may be their cause, their seat, or the modifications which the tissues undergo; whether they are intermittent or continued, acute or chronic. The consideration of a scrofulous, cancerous, dartrous, syphilitic diathesis is a chimera; the irritation is always one. The pretended specific virtue of certain stimulant remedies for irritation, is only an absurd supposition.

4. The stimulant method is only indicated in cases of primitive debility, and those are very rare.

5. Every disease being primitively local, it is necessary to find among the diseased organs which is the organ primitively affected. The treatment must be directed upon this organ: its irritation ceasing, the irritation of the other ceases likewise.

This is an exposition of the fundamental principles of M. Broussais' doctrine. It strikes by a sort of seductive simplicity; reducing all the art of cure to two indications, and offering as a sort of universal remedy, leeches and diet: it puts at ease many young physicians, who find it very commodious to learn their materia medica in a quarter of an hour, and in eight days the science of diagnosis.

It has not, however, been so adopted in all parts, except by some lazy spirits and enthusiasts. It has glided into all views of the art of healing, but with modifications more or less important.

It owes its prodigious success less to the positive knowledge which it has brought into the science of men, than to the happy direction which it has given to pathology and therapeutics: it strongly insists on the necessity of attaching on all occasions, the diseases to the organs; and to refer the symptoms to their true cause. It puts physicians on their guard against the abuse of a medicine too stimulating, and has introduced into the language of the science a precision unknown until then; and if medicine is studied in France in a manner so philosophical, it is owing to this new doctrine.

That these are great services, cannot be denied; but with the good is found the evil. I am far from believing that the capital propositions of this physiological doctrine are, as said by Broussais, immutable; and it is to be regretted that the intellectual despotism of this innovator, should hold so many youths henceforth incapable of thinking for themselves, and making unbiassedly their experiments. Being so filled with a disastrous conviction, they see nothing any where but irritation and gastritis, and in all cases know nothing but blood-letting and drinking water, indocile besides to the councils of experience, contemners of the elders, and believing in their own infallibility; most of them only doubt the objections that can be opposed to their master.

I will now recount some of the objections to this doctrine which appear to have some foundation.

M. Broussais pretends that all the vital properties imagined by physiologists, are chimeras and that there exists but one, contractility. To this it is answered, that neither direct observation nor legitimate induction, will allow the admission that all the interior movements of the living tissues are merely contractions; that contractility, though very evident in the muscular tissue, is not so at all in the other tissues; and that Haller, in allowing it to that one, has not passed the limits of correct observation, while they are passed in extending it to all others.

This contractility is not sufficient to explain all the modifications of which our organs are susceptible. Most frequently on this supposition they are inexplicable, as for example—the accumulation of fluids at a point irritated; in fact, the irritation is a shortening of the fibre; in the shortening, the particles approach each other—the fluids, instead of accumulating, ought to be expelled.

M. Broussais allows it himself in a contradictory manner in explaining by it, at the same time, the production of a phenomenon and its cessation; thus in hemorrhagy the fluids which the increased contractility had attracted, are repelled by the application of an astringent, which acts only by increasing the contractility.

In contradiction to himself in this case, he is still more in contradiction to the facts; when he affirms that the parts the most contractile are the most sensible, since it is proved that the nervous substance, the seat and conductor of sensibility, does not contract at all.

In accordance with Brown, M. Broussais affirms that life is only kept up by excitement. This is admitted; but this excitement, is it always and every where identical in its nature? Is it resolved in all cases into an increase of phenomena showing the state of life? Finally, does it only present a difference of degree?

It may be answered, that all agree that excitement takes place only consecutively to a movement and by a movement, and that movements being but movements, cannot be distinguished but by degrees of force; it is no less true, that whether by the nature of their direction, or whether by a specific circumstance of the sensibility, the excitement differs in each organ, not only in quantity but in quality; all external stimuli act in the same manner on the tissues, but consecutively to this impression, each tissue reacts altogether in a particular and special manner. The blood acts mechanically every where in the same manner, upon the brain, upon the heart, upon the liver, upon the salivary glands. However, in consequence of this identical impression, one of these organs produces ideas, another contracts, a third secretes bile, a fourth saliva; these considerations drawn from organic life, apply still better to animal life: If the organic action resulting from all stimulants is the same in all the tissues, why is the functional result so different? And, on the other hand, why do certain stimulants arouse one function instead of another? and why are these last powers less, although they bring into the tissues the same organic modification as the first? For example—why does the light alone produce sight, the vibration of the air hearing, odoriferous bodies smell? Do not the fragrant particles arrive at the same time at the eye, the ear, and the nose, but the nose alone perceives them?

Passing thence to pathology, we see that the theory of irritation explains very badly the innumerable morbid modifications of the organs, as sustaining its identity in all cases. M. Broussais gives the lie to these facts, which we must see producing different results, according to the organs where it is fixed.

Since he admits the different modes of irritation, he contradicts himself, because irritation in his system is but an exaggeration of these phenomena which attests to the vital state, and in not admitting them, he could not make his doctrine agree with the innumerable instances of cure obtained by remedies essentially irritant; and besides, he could not explain the action truly specific of several remedies. Pathological anatomy does not accord with the theory of gastro-enteritis, as in persons dead from malignant fever, the alimentary canal is found untouched, and clinical observations do not prove at all that the previous symptoms of fevers arise from gastric lesion.

The incontestable success of the tonic treatment proves that all disease is not inflammation.

It is not philosophical in medicine to reject remedies only because we cannot conceive how they act; and this theory, tending to proscribe the use of mercury in syphilis, quinine in fever, cubebs in gonorrhœa, is contradictory to facts the best attested.

The different explanations which he offered on the manner of acting of the different remedies, were insufficient; and as their specific action is more than probable, his theory of the identity of irritation is shaken by it in its foundation.

His depleting method, useful in many cases, is fallacious in a mass of others; and like all exclusive modes of practice, it tends to become in the hands of the uninformed a source of great evil.

Now if we examine the theory of Broussais in its grand divisions, we cannot but see its analogy with that of Brown.

Like him M. Broussais teaches that life is only excited in us through the irritability of living tissues, a property which the Scot designated under the name of excitability, and that it is only kept up by excitement. Like Brown, he only admits two modifications in vitality; its increase or diminution. Like Brown, he divides diseases in two classes—inflammatory diseases (sthenic,) and sub-inflammatory (asthenic.) Like him too, he believed that all the agents applied to the living fibre stimulate it. These are the principal points on which they agree; the following are those in which they differ:

Brown thought that excitement was uniformly spread through the animal economy, that it was one and indivisible; that it could not be increased at one point without being so at all others. M. Broussais, on the contrary, thought that excitement, although identical in its nature, is spread in unequal quantity through the different tissues; that it does not excite more or less, throughout the entire system; but that its augmentation at one point produces a diminution in an other, and vice versa.

The theory of Brown was a conception purely speculative.

The French theory reposed on the distinction of vitality in the tissues consecrated by Bichat.

In pathology the two reformers class their diseases in an inverse order. Brown, blinded by the state of apparent debility which accompanies all severe affections, and depending on the debilitating or exciting nature of causes, concluded that almost all diseases were asthenic; M. Broussais having remarked that debility is only consecutive to a phlogistic state of the internal organs, and that the consideration of the nature of causes is but a chimera, declares that the great majority of diseases must be ascribed to inflammation.

The first regarded almost all diseases as general, since they were referred, according to him, to the augmentation or diminution of an excitability, one and indivisible. The other believed all to be primitively local; and became general only by the laws of sympathy; and still this generalization had an entirely different signification from that of Brown.

In therapeutics there is the same discordance. Brown having always to combat debility, administered always stimulants. M. Broussais seeing everywhere inflammation, only employed depletives. The Scotch reformer believed besides, according to his doctrine of life, that remedies acted always in a general manner to whatever tissue they were applied. The French reformer, that they acted always locally, and that their distant effect is subordinate to the modification which they have first undergone in some organ.

It is not a little singular that, parting from the same principles, the two schools should have arrived at results so dissimilar in the classing of diseases and in practice; it is not less astonishing that they argue equally from clinical experience to justify their theories.

Among those that have opposed M. Broussais, my learned friend Dr. Miquel, of Paris, has rendered a true service to science in proclaiming all that was defective in the new doctrine. His letters to a physician of Provence announce in their author intelligence as extensive as profound—a penetrating mind, often caustic, and solid judgment, and a facility in writing very remarkable.

This doctrine has been judged in France altogether by rendering homage to the great talents of the reformer, and proclaiming what there is of benefit and advantage in it, and protesting strongly against what was heterodox and injurious to the progress of science; and that was the part of eclectism which is but the art of estimating the degree and value of proofs. Eclectism is one of the most happily chosen words that medicine has borrowed from philosophy, because it explains perfectly its object, and to select with discernment after experience and reason, examination and reflection, have pronounced their judgment. This is the philosophy of good minds—of men of free and unprejudiced judgment, who regard all spirit of party, all devotion to systems, as a sort of tyranny.

The systematic proceeds always from doctrines to fact. The eclectic pursues a course directly the reverse; he endeavours to follow the course of the mathematician *certum ab incerto* *inventum ab inveniendo.* The systematic hears and adopts; the eclectic reasons and deduces: the former pledges his obedience and his medical faith—the latter never surrenders his reason to any usurper; the one thinks through the medium of another—the other is always the author of his own judgment; the truth is that which I believe, says the theorist—the truth is what is demonstrated, answers the eclectic. The systematic might well exclaim with Baglivi—*vera dico, experta dico, sancteque affirmo.* The eclectic answers—let us see, let us examine, let us wait. In medical science, where the imagination runs so rapidly over the open plain of hypothesis, it is particularly important to apply the principles of Bacon—*humano ingenio, non plumæ addendæ, sed potius plumbum et pondera.* It is not more the part of eclectism to pour libations on the altars of Bacchus than to be enrolled under the standard of leeches.

Such is the power of enlightened eclectism. It is like the art which purifies the metals, though it does not create them. It makes the application of reason, judgment, and experience to modern productions and discoveries. The eclectic physician is not one who plants or sows, but it is he who gathers and he who sifts, and he is thus enabled to distinguish between the positive and the speculative, the tares and the true grain.

That M. Broussais is in France the first physician of our age, is what cannot be denied without ingratitude. But the thunder of his eloquence has never dismayed the eclectics.—In the admission, rejection, or mere discussion without determination of the principles of this professor, they have ever been guided by experience, and have ever rendered him distinguished justice; while their interest for truth has prevented them from going in any case to the extent of resting their faith upon his unassisted affirmation.

To recapitulate. It may be added, that every doctrine, every system, every theory, every method, and every hypothesis is to be adjusted by eclectism, which has indeed for its basis but the wisdom and the profundity of reason. Let the founders of sects and the systematizers declaim, attack, and recount the success of their doctrines; let their adversaries confound the true, the futile, the false, and the hazardous to proscribe them *en masse;*—the eclectic in his tranquil impartiality, free from bias and the spirit of detraction, will analyse, examine, infer, and determine. His triumph will be inevitable, provided the edifice which he has raised is supported by the triple basis of truth, time, and experience.

ART. II. *Contributions in Medical Jurisprudence and Police, No. 5.* By T. ROMEYN BECK, M. D.

WE have recently received two publications, an account of which may be interesting to some of the readers of this Journal. They treat of subjects which are but seldom discussed in courts of justice, and it may be, that in consequence of their unfrequent occurrence, the minds of medical men are not fully made up concerning them. They are, however, just such subjects as may, at an unexpected moment, be presented to them for deliberation and decision.

The venerable Chaussier (whose death at the age of 83 has been announced during the present year) commences his memoir by remarking, that he has been frequently consulted by tribunals and persons interested in the subject under consideration. The surviving of an infant for a short time after

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[*] *Memoire Medico-legal sur la Viabilité de L'enfant naissant, presenté a Monseigneur le Garde Des Sceaux, Ministre de la Justice.*—Par M. Chaussier, Chevalier de St. Michel et de la Legion d'Honneur, Professor à la Faculté de Medecine de Paris, Medecin en chef de la Maternité, Membre de l'Institut, de l'Academie de Medecine, &c. Paris, 1826, pp. 40.

Recherches Anatomiques et Physiologiques sur les cas D'Uterus double, et de Superfetation. Par A. L. Cassan, Docteur en Medecine de la Faculté de Paris, Ancien Interne de premiere classe des Hôpitaux et hospices civils de la même ville, &c. Paris 1826, pp. 86.

the death of its father, or its extraction in a living state from the womb of its dead mother, changes in many cases the order of succession, and hence gives rise to legal trials.

The earliest legislation on the subject was by the Emperor Justinian, who in an edict dated in 530, declared, that in order to render an infant capable of succeeding, it was sufficient that it came living into the world, and this, although it did not cry. He adds—"*si vivus, perfecte natus est;*" and further, that it should not have any monstrosity or extraordinary conformation "*monstrum vel prodigium.*" Under these qualifications it should inherit, even if it died in the hands of the midwife.

Our author does not hesitate to declare this law inconsistent and indefinite. By being *perfectly alive*, he observes, is understood, that it has arrived at, or very near its full period—that its organs are sufficiently developed to carry on the functions of independent life, and lastly, that during labour it has encountered no obstacle which may occasion its death during, or immediately succeeding that process. A child thus circumstanced, will immediately give marked signs of life—it moves its limbs, it raises cries which indicate proper respiration, and it does not expire in the hands of the midwife. The objection insinuated, and endeavoured to be provided against in the edict, viz. that it may be dumb, is opposed by the fact founded (says our author) on experience and observation, that such children do cry when perfectly alive.

Another inconsistency is, that a condition is established, without prescribing any marks by which it is to be verified. The child must be perfectly alive, and yet it need raise no cry, and it may even expire instantly in the hands of the midwife.

On applying the above rule practically, its looseness will be manifest. A few fugitive pulsations of the heart or the umbilical cord, or some slight motions of the members of the body, will be sufficient to satisfy its requirements. Now all this may, and sometimes does occur even with abortions at the fourth or fifth month. Dr. Chaussier asserts that he has often seen at the Hospital *De la Maternite*, fœtusses of various ages, unquestionably dead for one or two hours, in whom by insufflation of air, or by physical or chemical irritants, the motion of the heart, and indeed of the limbs, was renewed for a few minutes.

The next law on this subject was by Dagobert, in France, during the seventh century. In one of his capitularies, he ordains, that in order to acquire civil rights and transmit them, the infant should have lived at least an hour, and should have opened its eyes, and seen the ceiling and four walls of the chamber.

It is evident that by these expressions, singular as they may appear, the legislator intended that the infant should be perfectly formed, enjoy its senses, and be free of disease, so far, at least, as not to destroy it during the first moments of existence.

An ordinance of Louis IX. decreed that the child should not inherit, unless it had cried.

Notwithstanding these laws, our author remarks that decisions have frequently been made in France in direct contravention. The slightest motion has been deemed sufficient.—In some instances the child was declared to have lived, because the pulsation of the umbilical cord was observed; in others, because blood flowed, when the cord was cut. So also, if there were slight attempts at inspiration, or tremors of the limbs. A favourable decree was pronounced in one case, because there had been an evacuation of the meconium. Indeed, in 1780, a court decided an infant *had lived*, which was extracted from the womb of its mother by the Cæsarean operation, and besides was certainly not more than five months advanced, on the sole ground, that it had been seen to open its mouth and to close its fingers when they were extended.

The insufficiency of these proofs is earnestly urged by Chaussier. The pulsation at the umbilical cord, and the spouting of the blood from it when cut, only prove that the blood has preserved its fluidity, and that there is still some action left in the vessels—but they at the same time demonstrate that the infant has not breathed. As to gaping, or opening of the mouth, or motion of the limbs, these are most commonly spasms, or convulsive movements, the consequences of irritability and the last marks of the extinction of all the vital properties. The pulsation of the heart is equally noticed in the last moments of existence. The evacuation of the meconium should not be deemed a sign of life, since it is sometimes discharged in the womb, and is often caused by a compression of the abdomen. Indeed it is not from a single sign that the presence of life is to be declared, but from several united—such as the high red colour and warmth of the skin—a free and full respiration—sharp and continued crying and motion of the heart and limbs, and these continuing for a longer time than a few minutes.

It should always be remembered that there is a fœtal life as well as an extra-uterine one. The infant in the womb of its mother is subject to many diseases acute as well as chronic, which sometimes cause its death during pregnancy, and at others determine it most generally within twenty or thirty hours after birth.* Monstrosity or malconformations may also destroy the child immediately after birth, although in some cases neither of these are incompatible with prolonged existence.

Again the infant may have arrived to its full period, healthy and well formed, and yet encounter during labour such obstacles as may destroy it in the process or immediately after. Of this nature are compression of the head, pressure on the cord, &c. In general, according to M. Virey, of one thousand infants born, there perish twenty-three before seeing the light.

The French code now in force, declares that the child, in order to pass property, shall be born *viable, or capable of living* (*sera ne viable*). It is evident, from the observations which we have now stated at length, that more definite proofs are necessary than those formerly insisted on, and the aim of M. Chaussier, after giving his objections to former laws, is to propose more specific regulations on the subject.

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* In a note M. Chaussier observes, that he has for many years investigated at the Hospital de la Maternite, the diseases to which the fœtus is subject, and has found them usually to depend on inflammation of some organ. Thus he has seen infants born with peritonitis, gastritis, enteritis, and even ulcerations of the stomach and intestines. Sometimes he has noticed tubercles in the lungs, or collections of pus or serum in various parts; and again, cutaneous affections, scirrhous organs, or inflammatory congestions.

He premises these by observing that annuities are declared of no effect, if the individual dies on the day of the contract. (Art. 1974 of the French Code.) So, also, by Art. 1975, the agreement is vacated, if the person at the time labours under a malady of which he dies within twenty days after its date. Similar regulations, according to our author, should be applied to the case before us, being evidently more important, since by it, the rights of succession and of the transmission of property, are deeply affected.

If this should be admitted, he suggests the following articles for enactment :—

1. An infant shall not be considered *viable* (or capable of living) which is born before the three last months of pregnancy, and which dies immediately or within a few hours after birth.

2. Such infants are equally deemed not viable, which although arrived at their full term, are born anacephalous—that is, with a partial or total loss of the cranium and brain, even although they cry—or with any other malconformation, in consequence of which they cannot survive or execute their functions, and which art cannot remedy.

3. An infant shall not be deemed viable, which being attacked with disease in the womb of its mother, shall die within twenty-four hours after birth, and this whatever be the cause.

4. An infant shall not be deemed viable, which from the length or nature of the labour, suffers such injury that death occurs during its progress,—or which is in consequence affected by a determination of blood to the head, or a paralysis of the limbs in such a manner that art cannot relieve it, and dies within a few hours after its birth.

5. Such an infant is declared capable of living whose head

is well conformed, and which thirty-six hours after birth, is presented to the civil officer for inscription in his Registers in a living and vigorous condition.

Such (says our author in concluding his address to the Keeper of the Seals) are the observations and remarks which I beg your Excellency to take under consideration for the public good and the happiness of families.

The same objections that are made by M. Chaussier to the French law, are applicable to our own, which is derived from the English. "The child (says Blackstone) must be born alive. It is not essential that it be heard to cry. Crying indeed is the strongest evidence of its being born alive, but it is not the only evidence." What the remaining requirements are he does not specify, and if we refer to the few English cases that have been decided, we shall find that they are greatly obnoxious to the criticism of Chaussier.

The subject chosen by Dr. Cassan for his inaugural dissertation may be called a *vexed* one in Medical Jurisprudence. His object is to explain *superfœtation on anatomical principles.*

Commencing with an elaborate examination of all the cases of double uterus, that are recorded by writers, he refers to its occurrence in several classes of quadrupeds. Some indeed have the womb so disposed, that it almost appears to be separated into three or four divisions.

The first proposition of our author is that this conformation in the female is far from being so uncommon as is generally supposed. He enumerates, throughout upwards of twenty-five pages, the cases related by authors, from Riolan down to one examined by himself, and of which a beautiful lithographic print is given at the conclusion of the memoir.—These cases, (after excluding all that may be deemed doubtful) amount to *forty-one* in number, and from a comparison of their histories, he concludes—that this conformation, consisting in an incomplete or complete division of the internal cavity of the womb, is sometimes accompanied with a similar configuration of the vagina, though this last is often wanting;

that the appendages of the womb are in these instances never double, as might be conjectured; that two uteri, properly so called, or isolated from each other, have never been observed; that if the partition be complete, the uterus will present two external orifices, and that this organ may be divided, as in the above cases, without differing in external form from others having only a single cavity.

Dr. Cassan doubts whether, as has been supposed by some, pregnancy may be present in one cavity, while menstruation is going on in the other, and in confirmation of this, states the case related by Canestrini, of a female who died suddenly at the fourth month of gestation, and in whom a double uterus was found, yet the menses had not appeared during that process. The empty cavity, he supposes, must be more or less influenced by that in which a new action is going on—and hence it has been found to take on a corresponding increase while the intimate relation between the circulating system of the two parts is such, as to forbid us believing that pregnancy and menstruation can at the same time be present.

This anomalous state of the uterus he considers as a vicious organization, or an approach to monstrosity, and he conceives that it renders the idea advanced by some anatomists very probable, that the uterus is originally composed of two parts, which unites at a certain period of gestation, but in the present case, do so later than usual. It also presents us with the most rational explanation of the phenomenon termed *Superfœtation*, and which he defines to be the conception of a second embryo during the gestation of the first.

By this definition Dr. Cassan intends to exclude all those instances of twin pregnancy, in which there is an unequal developement, the one going to the full period and being of the natural size, while the other appears to have been dead for some months, and is not more than a few months advanced.—These last he considers as partaking of the nature of an abortion.

He conceives it impossible that superfœtation can occur in a simple uterus, for the reasons which are usually given. The ·cidua not only closes the orifice of the uterus, but lines its sides, and prevents the passage of a second ovum. He even doubts its possibility in those bilobed uteri, which do not present a complete septum or division. In fine, the only cases in which he deems it possible are,

1. *When there is a perfect double uterus.*—In proof of this he quotes the following example. Marquet (*Traité prâtique de l'hydropisie et de la jaunisse*) states that in examining the body of a female 48 years old, who died of pulmonary consumption, he found a double uterus resembling two pears reversed, united by their neck, and terminating by a common internal orifice. This woman had brought forth fourteen children, but always prematurely. All her labours had been preceded by hemorrhage, and suceeded by dangerous illness. In one instance, after being delivered of twins of four and a half months, neither of which had a placenta, she was a month thereafter delivered of a fœtus of six weeks.

Madame Bowin communicated to our author the following case, which occurred in her own practice :—

A female, aged forty, and the mother of one child, was delivered on the 15th of March, 1810, of a female child, weighing about four pounds. The abdomen continued of considerable size, but on examination, the mouth of the uterus appeared closed, and nothing could be discovered. On moving the tumour, however, which was towards the right, and higher than that formed by the uterus, the neck of the uterus was found to follow its direction. Motion was felt in it for two months, and on the 12th of May the female was delivered of a female child, weighing about three pounds, weak and almost still-born. All appearances of swelling now subsided. The mother informed Madame Bowin, that she had connexion with her seducer only three times—on the 15th and 20th of July 1809, and the 16th of September following.

2. *Where there is a pre-existing extra-uterine pregnancy.*—There are several cases on record which countenance this opinion. Bartholin relates of a woman in Livonia, who on coming at her full period suffered greatly for three days with

out being delivered. The year following she brought forth a healthy child, and upwards of three years thereafter, she, under great agony, passed for many months by the vagina, the different bones of a fœtus.

In the Memoirs of the French Academy of Sciences for 1756, is an account of a female, carrying a fœtus for twenty-seven months, and at last relieved of it by the Cæsarean operation, but who, notwithstanding, during that period had conceived and been delivered of a healthy child. A somewhat similar case is related in Rust's Medical Magazine for 1823.

Dr. Cliet, of Lyons, in 1818, examined the body of a female, aged 30, who died suddenly, after violent vomiting. He found an extra-uterine fœtus, of about five months, in the right iliac region, while in the uterus there was a fœtus of about three months.

3. *When there is a new conception before the first fecondated germ has occupied the cavity of the Uterus.*—The experiments of Haller, Hunter, and Haighton, and more recently of Home, John Burns, and Majendie, prove that the ovum sometimes does not descend into the womb until eight, fifteen, or even twenty days after conception.

It is this circumstance which will explain the cases of Buffon, Dewees, De Bouillon, &c. where two or more children have been born at the same time, of different colours, and thus indicating different parentage.

One of the most important parts of the essay of Dr. Cassan, is that in which he labours to exclude the cases of twins, the one perfect and the other imperfect, and delivered at various times, from the title of Superfœtation. He believes that in these instances they are conceived at the same time, but from various causes, one has died at some period of its fœtal life. The vitality of twins, says Madame Bowin, are seldom alike. The circulating system of one may be more active than that of the other. It will increase more rapidly, and may thus hasten the destruction of its compa-

On referring to works on Medical Jurisprudence, it will be readily seen that the difficulties of this subject as connected with legitimacy, are materially obviated by embracing the doctrines of our author.

ART. III. *Report of the Select Committee appointed by the House of Commons to inquire into the manner of obtaining Subjects for Dissection in the Schools of Anatomy, and into the State of the Law affecting the Persons employed in obtaining or dissecting Bodies.*

[IT is with sincere pleasure that we transfer to our pages this masterly report, as it shows the progress of liberal and enlightened principles in relation to the business of dissection. *Ed.*]

The peculiar nature of the subject which the Committee were appointed to investigate, has induced them to inquire principally into the practice of the anatomical schools of London, where, by personal communication with the most eminent surgeons, and with the students and principal teachers of anatomy, it could be fully ascertained that no detriment to their interests was to be apprehended from the publicity to arise out of the present inquiry. With regard to the practice of the provincial schools, to avoid the expense of summoning witnesses from a distance, they have been satisfied with written communications from resident professors or practitioners of eminence, which will be found in the Appendix.

The Committee have inquired into the nature of the difficulties which the anatomists have here to contend with, whether arising out of the state of the law or an adverse feeling on the part of the people; and into the evil consequences thence ensuing, as well to the sciences of medicine and surgery as to all who study, teach, and practise them, and eventually to the members of the whole community. They have called witnesses to show in what manner the wants of the anatomist are provided for in several foreign schools, and to state their opinion whether similar methods could be applied with advantage in this country, and if applied, would be adequate to remove the present difficulties.

The first origin of these difficulties is obviously to be traced to that natural feeling which leads men to treat with reverence the remains of the dead; and the same feeling has prompted them, in almost all times and countries, to regard with repugnance and to persecute anatomy.

As the importance of the science to the well-being of mankind was discovered, the governments of different states became its protectors, and in this country particularly, 'by the statute of Henry VIII., protection to a certain extent was given and intended to be given to it; but that protection, which at first perhaps was fully adequate, owing to the rapid progress of the science, has long since become wholly insufficient.

How limited were the wants of the science in the former part of the last century, may be learned from the lectures of Dr. Wm. Hunter, who describes the professors of the most celebrated schools, both at home and abroad, as employing in each course of lectures not more than one, or at most two subjects, and as exhibiting the performance of the operations of surgery, not on human bodies, but on those of animals. He represents the students in medicine and surgery as never exercising themselves in the practice of dissection, because for such practice they had no opportunities.

For such a system of instruction the provisions of the statute of Henry VIII. might well be adequate, and these provisions, indeed, may now be considered of importance only as a distinct admission of the principle, that the government of this country ought to protect anatomy. The reformation of this antiquated and imperfect system took place in this country in the year 1746, when Dr. William Hunter, having a singular enthusiasm for the science, established complete courses of anatomical lectures, and opened a regular school for dissection. The reform thus introduced was complete, and its author exulted before his death in having raised and diffused such a spirit for dissection that he should leave behind him many better anatomists than himself.

Under his immediate pupils and their successors this school has gone on increasing. The earliest account that the Committee have met with of the number of anatomical students resorting to London is that given by Mr. Abernethy, who states that shortly after the breaking out of the war with France they amounted to 200. One of the witnesses, Doctor Macartney, computes their number in the year 1798, at 300; and Mr. Brookes, a teacher of anatomy, in a calculation submitted to Sir Astley Cooper in the year 1823, then reckoned their number to be 1000. It appears from the returns now furnished by the teachers of the different schools in London, that their number at present is somewhat above 800; the diminution in the number since the year 1823 being the consequence, probably, of the pupils resorting to foreign schools, the advantages of which were less known at the former period than they are at present.

When it is considered what a demand there is for practitioners, as well to meet the wants of an increased population at home, as of an extended empire of colonies and dependencies abroad, this rapid increase of students will not appear surprising; and if it is considered also that not only is that demand an increasing one, but that every practitioner, however humble, from that laudable desire for intellectual improvement which characterises the present age, endeavours, if he can afford it, to obtain a good education, and must regard himself as ill educated if he has not gone through a course of dissection, the eventual increase of dissecting students can hardly be calculated, should their wants be supplied abundantly and at a cheap rate.

Although the students now attending the schools of anatomy in London exceed 800, not more than 500 of this number actually dissect. The duration of their studies in London is usually sixteen months, and during that time the number of subjects with which every student in surgery ought to be supplied appears from the evidence (though there is some difference on this point) to be no less than three; two being required for learning the structure of the parts of the body, and one the mode of operating. The total number of subjects actually dissected in the schools of London in one year is stated to be not greater than from 450 to 500, which is after the rate of less than one subject for each dissecting student; a proportion wholly insufficient for the purposes of complete education.

Dissection on an extended scale began in this country before there existed any such general feeling in its favour, founded on an opinion of its utility, that the British government, after the example of some foreign governments, would venture openly to patronise it. Accordingly, when in 1763, Dr. Hunter proposed to build an anatomical theatre, and to endow it with his museum and a salary for a professor, provided the government would grant him a site of ground for the institution, and his late Majesty would extend to it his countenance and protection, he met with a silent refusal. It was therefore only by stealth, and by means not recognised by the law, that the teacher was enabled to procure subjects. These means, it is notorious, from the time of Dr. Hunter down to the present time, have been principally disinterment; though of late other illegal modes and contrivances, such as stealing before burial, personation of relatives for the purpose of claiming bodies, &c. have occasionally been had recourse to. For some time after the first establishment of dissecting schools, while the number of teachers and students was small and the demand for subjects very limited, the means which were resorted to for obtaining a supply were adequate to the wants of the students, and bodies were obtained in abundance and cheaply. The exhumators at that time were few, and circumspect in their proceedings; detection was rare, the offence was little noticed by the public, and was scarcely regarded as penal; so that (according to one of the witnesses) long after the decision of the judges in 1788, that disinterment was a misdemeanour, prosecutions for this offence were not common, and offenders taken in the fact were usually liberated. If this state of things had continued, though the illegality of the practices had recourse to must be conceded, yet they could scarcely be said to occasion evils of such a magnitude as to require a legislative remedy. But the number of students and teachers having greatly increased, and with them the demand for subjects and the number of exhumators, detections became frequent, the practice of exhumation notorious, and public odium and vigilance were directed strongly against the offenders. It may be collected from the debates in Parliament which took place in the years 1796, during the progress of a bill for subjecting to dissection the bodies of felons executed for burglary and robbery, that even at that time the public regarded disinterment with strong feelings of jealousy.

In proportion as the public became vigilant, the laws relating to sepulture were interpreted and executed with increasing rigour; and as the price of subjects rose with the difficulty of obtaining them, the premium for breaking the laws increased with the penalty. The exhumators increased in number, and being now treated as criminals, became of a more desperate and degraded character.

The parties of daring men who now took to raising bodies, did it happen, (as was frequently the case) that, while in pursuit of the same spoil, they fell in one with another, actuated by vindictive feeling, and regardless of the caution and secrecy on which the successful continuance of their hazardous occupation must depend, had contests in the places of sepulture, left the graves open to public gaze, or gave information to magistrates, or the relatives of the disinterred, against their rivals. Frequently, with a view to raise the price of subjects, to extort money, or to destroy rivalry, they have proceeded to acts of outrageous violence, tending to excite the populace against the teachers of anatomy. These, and similar acts of violence and imprudence, have been constantly bringing exhumation to light, and have exasperated the public against both the exhumator and the anatomist; and this to such a degree, that of late, in many cases, individuals, out of solicitude to guard the dead, have taken upon themselves to dispense with the laws of their country, and have fired upon parties attempting disinterment. Other circumstances, but of minor importance, have been assigned by some of the witnesses as augmenting the difficulty of obtaining subjects in London, or increasing the demand for them: but as regards them the Committee beg leave to refer to the evidence itself. The general result has been, with some difference, according to differences of place and season (sometimes owing to the caprice and mercenary motives of the agents employed, at other times owing to the real difficulty of obtaining a supply), that of late subjects have been to be procured either not at all, or in very insufficient quantity, and at prices most oppressive to the teacher and student.

The price of a subject about thirty years ago was from one to two guineas; the teacher now pays from eight to ten guineas; and the price has risen even to sixteen guineas. The teachers deliver subjects to their dissecting pupils at a lower price than that at which they purchase them, having been compelled to resort to this expedient lest dissection in London should be abandoned altogether. The loss which they sustain is made good out of the fees which they receive for attendance on their lectures in the anatomical theatre. The cost of providing subjects is also enhanced to the teacher by his being required occasionally to defend the exhumator against legal prosecution, and to maintain him against want, if sentenced to imprisonment, and his family, in case he has one, until the period of his punishment expires.

Nor is it only of a precarious, insufficient, and expensive mode of obtaining subjects that the cultivators of anatomy complain—it is by the law, not as regards the exhumators, but as it affects themselves, that they are aggrieved.

The first reported case of a trial for disinterment is that of Rex *v.* Lynn, in the year 1788, when the Court of King's Bench, on a motion for an arrest of judgment, decided it to be a misdemeanour to carry away a dead body from a churchyard, although for the purpose of dissection, as being an offence *contra bonos mores* and common decency. In this state the law on the subject of disinterment, as interpreted by the ourt of King's Bench, appears to have remained until the sent year; when Davies and another were tried and con- ed at the assizes at Lancaster, and subsequently received the sentence of the Court sitting at Westminster, for having taken into their possession, with intent to dissect, a dead body, at the time knowing the same to have been unlawfully disinterred. A respectable teacher of anatomy, residing at Liverpool, had been tried and found guilty on a similar indictment at the quarter sessions at Kirkdale, in the month of February in the same year. With these exceptions, magistrates appear hitherto to have taken no cognizance of receiving into possession a dead body, unless there were strict evidence that the receiver was a party to the disinterment; and on this practical view of the state of the law, professional men also appear hitherto to have acted. At present, however, a most intelligent magistrate, one of the witnesses, considers that very slight evidence would connect the receiver with the disinterment; and that the purchase from the exhumator would suffice to send the case to a jury, the knowledge of the fact of disinterment being to be collected from the circumstances, if strong enough to justify the inference. It is stated that there is scarcely a student or teacher of anatomy in England who under the law, if truly thus interpreted, is not indictable for a misdemeanour.'

According to the opinion of the last cited witness, to be a party to the non-interment as well as to the dis-interment of a dead body, would render a person indictable for a misdemeanour. Two cases are cited in support of this opinion. In the one, Rex *v.* Young, a non-reported case, but referred by the court in the case of Rex *v.* Lynn, the master of a workhouse, a surgeon, and another person, were indicted for and convicted of a conspiracy to prevent the burial of a person who had died in the workhouse. In the other, Rex *v.* Cundick, which occurred at the Surrey spring assizes in the year 1822, the defendant was found guilty on an indictment for a misdemeanour, charging him with not having buried the body of an executed felon, entrusted to him by the gaoler of the county for that purpose; but with having sold the body for lucre and gain, and for the purpose of being dissected; and on this trial it was not considered necessary to prove that the body had been sold for lucre or for the purpose of dissection. The witness infers, from the analogy of all these cases, that to treat a dead body as liable to any thing but funeral rites, is an offence *contra bonos mores*, and therefore a misdemeanour.

This state of the law is injurious to students, teachers, and practitioners, in every department of medical and surgical science, and appears to the Committee to be highly prejudicial to the public interests also.

It is the duty of the student to obtain, before entering into practice, the most perfect knowledge he is able of his profession, and for that purpose to study thoroughly the structure and functions of the human body, in which study he can only succeed by frequent and repeated dissection. But his wants cannot adequately be supplied in this country, except at an expense amounting nearly to a prohibition, which can be afforded only by the most wealthy, and precludes many students from dissecting altogether. From the precariousness or insufficiency of the supply, the dissections and lectures are often suspended for many weeks, during which the pupils are exposed to the danger of acquiring habits of dissipation and indolence; and, from the same causes, that important part of surgical education is usually omitted, which consists in teaching how to perform on the dead body those operations which the student may afterwards be required to practise on the living. But not only does the student find dissection expensive and difficult of attainment, but he cannot practise it, without either committing an infringement of the law himself, or taking advantage of one committed by others. In the former case he must expose himself to imminent hazard, and in either he may incur severe penalties, and be exposed so public obloquy. The law, through the medium of the authorities entrusted with conferring diplomas, and of the boards deputed by them to examine candidates for public service, requires satisfactory proof of proficiency in anatomical science, although there are no means of acquiring that proficiency without committing daily offences against the law. The illegality and the difficulties attending the acquisition of the science dispose the examiners in some cases to relax the strictness of their examination, and induce them, in the case of the Apothecaries' Company, to dispense with dissection altogether; the persons to whom certificates are granted by the examiners of this Company being those who, from their numbers* and extensive practice, ought especially, for the safety of the public, to be well instructed. The annual number of certificates so granted exceeds 400.

The teacher of anatomy, besides the evils which befall him in common with the student, has to suffer others, arising also out of the state of the law, which affect him with peculiar hardship. The obstacles which impede the study of anatomy in this country are such, and the facilities presented to the study in foreign countries are so great, that those English students who are desirous of obtaining a thorough knowledge of the science desert the schools at home, and repair to those abroad. Their principal resort is to Paris, where 200 English students of anatomy are now pursuing their course of instruction.—Dissection probably under these circumstances, would scarcely be followed at home, were it not for the regulations of the College of Surgeons, which require the candidates for the diploma of the college to have learned the practice of surgery in a recognised school within the United Kingdom; so that the student, during the period required for learning this practice, in order that he may the sooner become qualified for his profession, employs a part of his time in learning also to dissect. These disadvantages affecting the teacher are such, that, except in the most frequented schools attached to the greater hospitals, few have been able to continue teaching with profit, and some private teachers have been compelled to give up their schools. To the evils enumerated it may be added, that it is distressing to men of good education and character to be compelled to resort, for their means of teaching, to a constant infraction of the laws of their country, and to be made dependent, for their professional existence, on the mercenary caprices of the most abandoned class in the community.

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* Computed at 10,000 in England and Wales.

But it is not only to the student, while learning the rudiments of the science, and to the teacher, while endeavouring to improve it, that dissection is necessary, and the operation of the law injurious. It is essential also to the practitioner, that during the whole course of his professional career he should dissect, in order to keep up his stock of knowledge, and to practise frequently on the dead subject, lest, by venturing to do so unskilfully on the living, he expose his patients to imminent peril. He is required also, in many important cases, civil and criminal, to guide the judgment of judges and of jurors, and would be rebuked were he to confess, upon any such occasion, that, from having neglected the practice of dissection, he was unable to throw light upon a point at issue in that science which he professed. He is liable, in a civil action, to damages for errors in practice, due to professional ignorance; though at the same time he may be visited with penalties as a criminal, for endeavouring to take the only means of obtaining professional knowledge.

Under these circumstances, affecting equally the student, teacher, and practitioner, the Committee were not surprised to find that this inquiry excited considerable interest in all parts of the country, and that numerous petitions from all classes of the profession, connected with the science of anatomy, were laid upon the table of the House, uniformly praying for an amendment of the existing law on the subject.

But independently of the bearings of the question on the interests of medical practitioners, and on the health of the community, the system pursued is productive of great evil, by training up a race of men in habits eminently calculated to debase them, and to prepare them for the commission of violent and daring offences. The number of persons who in London regularly live by raising bodies, is stated by the two police officers examined before the Committee not to exceed ten; but the number of persons occasionally employed in the same occupation is stated by the same witnesses to be nearly two hundred. Nearly the whole of these individuals, as is admitted by the exhumators themselves who were examined before the Committee, are occupied also in thieving, and form the most desperate and abandoned class of the community.—If, with a view to favour anatomy, exhumation should be allowed to continue, it appears almost a necessary consequence that thieves also should be tolerated. It should seem useless, however, with a view to suppress exhumation, to endeavour to execute the existing laws with increased severity, or to enact new and more rigorous ones. The effect of interpreting and executing the laws with increasing rigour has been, not to suppress exhumation, but to raise the price of bodies, and to increase the number of exhumators. So long as there is no legalized mode of supplying the dissecting schools, so long the practice of disinterment will continue; but if other measures were devised, which would legalize and insure a regular, plentiful, and cheap supply, the practice of disinterring bodies, and of receiving them, would of necessity be entirely abandoned.

Before adverting to those new methods for obtaining an adequate supply of subjects which have been suggested by the witnesses who have been examined before the Committee they will state in what manner, according to the evidence adduced, the schools of anatomy at Paris are provided. They have also inquired into the practice of some other foreign schools, for an account of which they beg to refer to the evidence itself; and they dwell upon the practice of the schools of Paris, because it approaches most nearly to the plan recommended by most of the witnesses for adoption in this country.

The administration of all the hospitals at Paris, since the Revolution, has been confided to a public board of management. The rule at the hospitals is, that every patient who dies shall be attended by a priest, and that, after the performance of the usual ceremonies of the Catholic church, the body shall be removed from the chapel attached to the hospital to the dead room, and there remain for twenty-four hours, if not sooner claimed by the relatives. Bodies may be examined after death by the medical officers attached to a hospital, in order to ascertain the cause of death, but may not be dissected by them. A body, if claimed by the friends after examination, is sewed up in a clean cloth before being delivered to them. If not claimed within twenty-four hours after death, after being enveloped in a cloth in a similar manner, it is sent, in the manner hereafter described, to one of the dissecting schools.

There are no private dissecting schools at Paris, but two public ones; that of the Ecole de la Medecine, and that adjoining the Hôpital de la Pitié. These are supplied exclusively from the different hospitals, and from the institutions for maintaining paupers, the supply from certain of these establishments being appropriated to one school, and that from the remaining establishments to the other.

The distribution of subjects to the two schools is confided to a public officer, the Chêf des travaux Anatomiques. He causes them to be conveyed from the hospitals at an early hour in a covered carriage, so constructed as not to attract notice, to a building at the schools set apart for that purpose. They are then distributed by the prosecteurs to the students; and after dissection, being again enveloped in cloth, are conveyed to the nearest place of interment.

The students at the Ecole de la Medecine consist of young men who have distinguished themselves at a public examination, though the person at the head of the establishment is also allowed to admit pupils to dissect. The school of La Pitié is open to students of all nations, who on entering themselves may be supplied with as many subjects as they require, at a price varying, according to the state in which the body is, from three to twelve francs; priority of choice, however, being given to the élèves internes of the different hospitals, and the subjects being delivered to them at a reduced price. English surgeons were here permitted, until lately, to engage private rooms for the purpose of lecturing on anatomy to students of their own nation, and to superintend their labours in the dissecting room. From the protection and facilities which have thus been afforded to the study of anatomy at Paris, it has become the resort of the medical students of all nations the practice of exhumation is wholly unknown, and the feelings of the people appear not to be violated.

It is the opinion of almost all the witnesses, that the adoption in this country of a plan similar in most respects to that which prevails in France, would afford a simple and adequate remedy for the existing evils. They recommended that the bodies of those who during life have been maintained at the public charge, and who die in work-houses, hospitals, and other charitable institutions, should, if not claimed by next of kin within a certain time after death, be given up under proper regulations to the anatomist; and some of the witnesses would extend the same rule to the unclaimed bodies of those who die in prisons, penitentiaries, and other places of confinement. In the hospitals which supply subjects to the anatomical schools of France and Italy, religious rites are paid to the dead before giving up the bodies for dissection: in the plan proposed for this country, most of the witnesses recommend that the performance of religious rites should be deferred until after dissection, and they are anxious that the anatomist should be required, under adequate securities, or a system of effective superintendence, to cause to be administered, at his own expence, to the bodies which he dissects, religious solemnities and the usual rites of burial.

The plan proposed has this essential circumstance to recommend it,—that provided it were carried into effect, it would yield a supply of subjects that, in London at least, would be adequate to the wants of the anatomist. The number of anatomical students resorting annually to London, and the number of subjects with which they ought to be supplied, have been already stated. It appears from the returns obtained by the Committee from one hundred and twenty-seven of the parishes situate in London, Westminster, and Southwark, or their immediate vicinity, that out of 3744 persons who died in the workhouses of these parishes in the year 1827, 3103 were buried at the parish expence; and that of these, about 1108 were not attended to their graves by any relations. There are many parishes in and around London from which at the time of making this Report returns had not been delivered in; but it may be inferred from those returns which have been procured, that the supply to be obtained from this source alone would be many times greater than that now obtained by disinterment; that when added to the supply to be derived from those other sources which have been pointed out, it would be more than commensurate to the wants of the student, and consequently, that the plan, if adopted, as meeting the exigencies of the case, would eventually be the means of suppressing the practice of exhumation.

If it be an object deeply interesting to the feelings of the community that the remains of friends and relations should rest undisturbed, that object can only be effected by giving up for dissection a certain portion of the whole, in order to preserve the remainder from disturbance. Exhumation is condemned as seizing its objects indiscriminately—as, in consequence, exciting apprehensions in the minds of the whole community—and as outraging in the highest degree when discovered, the feelings of relations. If selection then be necessary, what bodies ought to be selected but the bodies of those who have either no known relations whose feelings would be outraged, or such only as by not claiming the body, would evince indifference on the subject of dissection? It may be argued, perhaps, that the principle of selection, according to the plan proposed, is not just, as it would not affect equally all classes of the public; since the bodies to be chosen would, necessarily, be those of the poor only. To this it may be replied—First, that even were the force of this objection to a certain degree admitted, yet that, to judge fairly of the plan, its inconveniences must be compared with those of the existing system, which system, according to the evidence adduced, is liable in a great measure to the same objection, since the bodies exhumated are principally those of the poor; secondly, that the evils of this, or of any other plan to be proposed on this subject, must be judged of by the distress which it would occasion to the feelings of surviving relations, and the unfairness to one or another class of the community, by the degree of distress inflicted on one class rather than another; but where there are no relations to suffer distress, there can be no inequality of suffering, and, consequently, no unfairness shown to one class more than another.

One or two of the witnesses, who appear to be either favourable, or not opposed to the principle of the plan, speak with doubt of its success, as though it would be found impracticable to reconcile the public to its introduction; and one, in particular, apprehends that religious feelings may impede its adoption. An objection founded on religious feelings does not apply to the plan in question only, but would be equally valid, generally, against all dissection whatsoever; and should lead those who urge it, consistently with their own principles, to endeavour to put down altogether the study of practical anatomy.

Though it may be true that the public are to a certain degree averse to dissection, yet it is satisfactory to find several of the witnesses adducing facts to prove that those feelings of aversion are on the decline. They state that in those parish infirmaries where the bodies of those who die are examined, as the practice has become common, it has been viewed with less jealousy: that in these hospitals where a similar rule prevails, neither patients themselves are deterred from applying for admission, nor their relatives on their behalf: that the addition of public dissecting rooms to hospitals has not produced any diminution in the number of applications for relief within the walls of these hospitals; and that, by reasoning with the friends of those who die, and by explaining to them how important it is to the art of healing that examination should take place after death, they may usually be brought to consent to the bodies of their friends being examined. Hence it is argued, that in involving the subject of dissection in mystery, as has hitherto been the case, the public have been treated injudiciously: that with proper precautions, and the light of public discussion to guide them, they may be made to perceive the importance of the study generally, and the reasonableness of the particular measure now contemplated, and that when they come to regard it as the means of suppressing exhumation, they will receive it with favour and finally acquiesce in it.

The legislative measures which most of the witnesses are desirous of, in order to enable them to carry the plan into effect, is the repeal of any existing law, which would subject to penalties those who might be concerned in carrying the proposed plan into execution: they wish for an enactment permissive and not mandatory, declaring that it shall not be deemed illegal for the governors of workhouses, &c. and for anatomists, the former to dispose of, the latter to receive and to dissect, the bodies of those dying in such workhouses, &c. such bodies not having been claimed, within a time to be specified, by any immediate relations, and due provision being made for the invariable performance of funeral rites. Some few of the witnesses, indeed, who state that they wish for the success of the plan, contemplate any legislative interference whatever in this matter with apprehension; but they do not appear to have been aware how nearly the cases decided by the courts of law, and already adverted to, would apply to persons engaged in executing the plan in question. In those cases the bodies, for the non-burying of which the defendants were severally convicted, were those of a pauper who died in a workhouse, and of a person who suffered death as a felon. If these cases apply, as it appears they do, to persons engaged in giving up or in receiving, for other purposes than for burial, the bodies of the inmates of workhouses or of prisons, such impediments to the success of the plan cannot be removed, as these witnesses think they might be, simply by the favourable interference of the executive government, however disposed to show indulgence to the profession; but an act of the legislature can alone provide a remedy.

Amongst the measures that have been suggested for lessening the dislike of the public to dissection, is that of repealing the clause of the act of Geo. II. which directs that the bodies of murderers shall be given up to be anatomized. It appears from the returns already laid before the House, that, as regards the direct operation of this clause, on the supply of subjects, the number which it yields to the anatomist is so small in comparison of his total wants, that the inconvenience which he would sustain from its repeal would be wholly unimportant. As to its remote operation, almost the whole of the witnesses examined before the Committee, and of those whose written communications will be found in the appendix, are of opinion, that the clause in question, by attaching to dissection the mark of ignominy, increases the dislike of the public to anatomy, and they therefore are desirous that the clause should be repealed.

The Committee would be very unwilling to interfere with any penal enactment which might have, or seem to have, a tendency to prevent the commission of atrocious crimes; but as it may be reasonably doubted whether the dread of dissection can be reckoned amongst the obstacles to the perpetration of such crimes, and as it is manifest that the clause in question must create a strong and mischievous prejudice against the practice of anatomy, the Committee think themselves justified in concluding, that more evil than good results from its continuance.

The Committee consider that they would imperfectly discharge their duties if they did not state their conviction of the importance to the public interests of the subject of their inquiries. As the members of the profession are well educated, so is their ability increased to remove or alleviate human suffering. As the science of anatomy has improved, many operations formerly thought necessary have been altogether dispensed with; most of those retained have been rendered more simple, and many new ones have been performed, to the saving of the lives of patients which were formerly thought impossible. To neglect the practice of dissection would lead to the greatest aggravation of human misery; since anatomy, if not learned by that practice, must be learned by mangling the living. Though all classes are deeply interested in affording protection to the study of anatomy, yet the poor and middle classes are the most so; they will be the most benefitted by promoting it, and the principal sufferers by discouraging it. The rich, when they require professional assistance, can afford to employ those who have acquired the reputation of practising successfully. It is on the poor that the inexperienced commence their practice, and it is to the poor that the practice of the lower order of practitioners is confined. It is, therefore, for the interest of the poor especially, that professional education should be rendered cheap and of easy attainment; that the lowest order of practitioners (which is the most numerous,) and the students on their first entry into practice, may be found well instructed in the duties of their profession.

Such, on an attentive consideration of the evidence adduced, is the deliberate judgment of the Committee on the matters submitted to them; and it now remains for the House to consider whether it will not be expedient to introduce, in the course of the ensuing session, some legislative measure which may give effect to the recommendations contained in the present Report.

July 22, 1828.

ART. IV. *Case of Poisoning by Laudanum, in which the Stomach Pump was successfully used.* By CHARLES A. LEE, M.D. of New-York.

AMONG the late improvements in the healing art, the evacuation of the stomach, by the use of the stomach-pump, deservedly ranks amongst the most important. There is much reason, however, to believe, that this admirable instrument is not duly appreciated by the profession generally, inasmuch as but few are in possession of it, and seem to regard it more as a matter of curiosity than an article of use. Dr. Paris, in his Pharmacologia, speaks of it in such cold terms of praise, as to weaken, if not destroy all confidence in it among those who have not learned its value from actual experiment. He remarks—"There are cases of narcotic poisoning in which there can be no doubt it would furnish the practitioner with a valuable resource, but I much fear that it will be found to be less successful than its more sanguine advocates have anticipated; for where the stomach has so far lost its powers as to be insensible to the stimulus of a potent emetic, the chances of recovery are small." However small the chances of recovery may be in such cases, they surely will not be lessened by the prompt removal of the offending substance; besides, the difficulty of swallowing is often so great, that an emetic cannot be administered without employing the stomach-pump.

To illustrate the superior efficacy of this apparatus to all other means, and to prove, what is still more to the purpose, that we can sometimes succeed by the use of it when all other means wholly fail, I take the liberty of detailing the following case which occurred in my practice.

Mrs. I. a widow lady, æt. 28, of delicate constitution, nervous temperament, and subject occasionally to great mental depression, swallowed a large quantity of laudanum. She had been troubled for some time previously with violent attacks of hysteria, occasioned by dysmenorrhœa, and regularly returning at every catamenial season. These attacks would continue from one day to a week or more, during which her spasms were often so strong, that it required several persons to prevent her from inflicting self-injury. In one of these *cerebro-uterine* paroxysms, she threw herself from the second loft to the pavement, without, however, receiving any hurt, except a slight concussion of the brain.

Apprehensive that one of these painful attacks was approaching, she resolved to anticipate it by a *quietus dose* of a narcotic. She accordingly swallowed what laudanum she had procured (the precise quantity not known) the primary effect of which was the very same she wished to obviate. The *hysterical paroxysm succeeded;* she became furious, raving, frantic—but in a few minutes to this high state of excitement corresponding depression followed. Now succeeded with alarming rapidity the usual symptoms of narcotic poisoning—giddiness, obscure vision, convulsions, aphonia, wildness of the eyes, palpitation, and at length total stupor. The usual metallic emetics were with some difficulty administered, but without the least effect in exciting nausea. A strong solution of tart. antimony with ipecac. proved as ineffectual. All attempts likewise to excite the irritability of the stomach by external stimulants were unavailing. Some hours had now elapsed, and the symptoms assumed a still more alarming character. The breathing became stertorous, the extremities cold, the pulse feeble and frequent, and all signs of sensation and motion disappeared.—Cold affusion had no further effect than to rouse the patient sufficiently to administer the remedies. It soon ceased, however, to have even this effect.

As a last resort, I had recourse to the stomach-pump. The œsophagus tube was readily passed into the stomach, and it was guarded from injury by introducing a piece of cork between the teeth. Several pints of tepid water were injected and pumped out again, until the stomach was completely cleansed. I did not take advantage of the instrument in throwing in stimulating articles (as I should have done and as ought to be done in every similar case) and thus restore the patient from the death-like torpor which prevailed. During this time, the respiration was stertorous and apoplectic, the extremities cold, the eyes fixed in their sockets, the skin covered with a clammy sweat, and every thing indicated a fatal result.—Sinapisms of mustard applied to the extremities, stimulating frictions employed on different parts of the body, together with such internal stimulants as she could be made to swallow, at length succeeded in rousing her from her lethargy, just twelve hours after swallowing the laudanum. Let the above case be added then, to those already on record, where life has been preserved by the employment of the stomach-pump.

ART. V. *A Case of anomalous Intermittent Fever.* By CHARLES McKNIGHT SMITH, M.D. of New-Jersey.

AN anomalous case of tertian intermittent, complicated with an eruption resembling urticaria, recently occurred in my practice, the symptoms, treatment, and termination of which I will relate.

Daniel A. aged 64 years, of spare habit, and who for about three months had suffered from diarrhœa, was on the morning of the 20th of September last, seized with a severe rigor, followed with great heat, and ultimately profuse diaphoresis.—Almost simultaneously with the rigor appeared an eruption of a bright red colour, attended with an intolerable itching, pain, and sense of sinking at the epigastrium. This eruption was confined during the first paroxysm (which lasted about six hours) to the *left* side of the body. When the paroxysm terminated, the eruption receded, but on the 22d, somewhat later, another occurred similar in every respect to the first, with this exception, that the eruption now occupied the *right* side, the left being totally free. These periodical exacerbations and remissions continued about a week, the eruption alternately affecting the right and left side. During this time an emetic of eupatorium perfoliatum (boneset) was taken; it produced an emesis, and partially relieved the weight or sense of sinking at the præcordia, but did not interrupt the chain of morbid actions. I saw the patient for the first time during the fourth paroxysm, the symptoms those as detailed above. I administered an emetic of tartarised antimony, which disgorged the stomach of a large quantity of bile, the operation of which being over, Fountain's mineral sol. ars. was given in doses of 6 min. every two hours, and its use continued 12 hours. The medicine was then discontinued, and on the following day a brisk cathartic of calomel and jalap brought away a large quantity of fœtid excrement. The ensuing day the disease recurred as before; the use of the arsenic was resumed in doses of 4 min. every two hours, and repeated six times, followed the next day by calomel and jalap. From this time the paroxysms ceased, the eruption disappeared, and he was soon restored to health. The disease has not since returned; no unpleasant effects whatever followed the use of the arsenic—neither nausea, difficulty of breathing, puffiness of the features, nor soreness of the eyelids were observable. I must also remark, that the diarrhœa has also wholly disappeared.

ART. VI. *New mode of detaching the Placenta in cases of Partial Adhesion and Hemorrhage.* By FRANCIS O. DOUCET, M.D. of New-York.

THIS new method was first proclaimed by Dr. Bened. Majon in France, and consists in injecting cold water and vinegar into the umbilical vein. This simple method, says the Doctor, is never attended with danger, and he assures us he has had many opportunities of giving it a fair trial and has never failed of success.

It is necessary to express the blood from the cord, and to inject the water moderately into the umbilical vein.

Whether it be the result of the sudden impression, and the distention which is produced by the liquid in the tissue of the placenta, or the cold which is produced instantaneously in the vascular tissue which unites the placenta to the uterus, or the augmented weight of that celulo muscular mass, the placenta detaches itself spontaneously, without being obliged to introduce the hand into the uterus, as it is usually done in cases of consecutive hemorrhage. The injection may be repeated twice or three times, provided the liquid injected at first be all expelled.

Although it is evident that the result can be produced by acidulated water, may not the same effect be produced by injecting cold water alone? Is it not to be feared that the water might be forced into the tissue of the uterus and produce metrite?

Early in September last, I attended a woman in childbed of her fourth child, after the expulsion of the fœtus, the hemorrhage was considerable. I attempted to extract the placenta, but found great resistance; I had recourse to the usual means with as little success. I then injected cold acidulated water into the umbilical vein, the hemorrhage ceased in an instant, and soon after the placenta was expelled, the woman was put to bed, and a little warm cinnamon water with wine was administered; the lochia were regular, and the woman afterwards enjoyed perfect health.

Art. VII. *History of a Case illustrating the effects of a cold climate in Pulmonary Consumption.* By Dr. Xavier Tessier, of Quebec.

It is an opinion universally entertained, that the change of climate, from a northern to a more southern latitude, will afford considerable benefit, if not produce a radical cure in cases of pulmonary consumption. The fact of the comparative scarcity of pulmonary consumptions in the frozen climate of Canada, led me to suspect that a cold atmosphere might perhaps relieve those diseases, on the same principle that it seemed to prevent their more frequent occurrence. Without entering into any theoretical speculations, I will endeavour to prove the truth of my remark, by relating a very singular instance which occurred in my practice, and is yet the only case of the kind on record.

A young gentleman, twenty-two years of age, of a lymphatic temperament, thin, and tall, having a long neck, depressed chest—in a word, possessing all the attributes of a tendency to consumption, had heretofore enjoyed good health, when he was sent as a clerk to some of the Indian trading posts on the coast of Labrador. He lived there for two years, amidst all the hardships of a continual winter, without any kind of indisposition. He now returned to Quebec during the warm season. Shortly after his arrival he was affected with a troublesome dry cough, with vagrant pain about the chest, and that peculiar tickling sensation at the glottis, which is so remarkable in the first stages of consumption. How this would have terminated had he remained under the comparatively warm climate of Quebec, will be seen hereafter. His stay in the city was not more than four weeks, when he set off again for Labrador. About a week after his departure, and as he approached the vicinity of the pole, he recovered his perfect health. Two years after he again came to Quebec, and the symptoms he had formerly experienced appeared as before, and continued until he returned to his former place of residence. During the space of six other years he came four times to Quebec, and the same symptoms never failed to come on about a week after his arrival. After remaining during ten years at Labrador, he determined to make his final stay in Quebec, and applied to me for advice. On hearing his narrative, I was struck with the peculiar character of a case which was so evidently in contradiction to our ideas of the influence of climates on such diseases; and resolved to observe very carefully the progress of the case while he should remain in Quebec. Being convinced of the propriety of his continuing a mode of life which had saved him so many times from what I considered a mortal attack, I desired him to resume, as much as possible, the habits and regimen he had been accustomed to in Labrador.

The winter was now setting in, and, as I had anticipated, his complaint did not materially increase, although the symptoms continued nearly the same. But it must be recollected that the patient, notwithstanding the severe winter of Quebec, had passed to a more southern region, the difference between the cold temperature of Quebec and Labrador being about twelve degrees of Farenheit.

The course of conduct above alluded to did not produce any sensible benefit; and having some reluctance at pursuing a line of practice so directly in contradiction with all the rules of my art, being also apprehensive that the disease would gain time, and consequently become more obstinate to whatever little means we possess of checking its early progress, I commenced a regular medical treatment, as I dreaded the approach of the spring, which was beginning to set in.

The patient was put on milk diet, light meat, and moderate exercise; blisters were put to the chest, where the pain had become fixed, and an eruptive discharge was kept up by means of the ointment of tartarized antimony. This treatment, which I conceive to be the best adapted to these cases, was persevered in to the last, but with no apparent relief.—The disease began rapidly to increase on the return of summer, and the patient died on the 20th of September following, nearly one year after his return from Labrador.

I make no comment on this case—it does not require any;

the consequences are self-evident; and I presume they are such as will warrant at least the assertion that this ought to be attended to in future. Thus, for the inhabitants of the southern states the climate of Canada might prove a very appropriate place of resort for those who may feel disposed to make the trial, whilst the cheerfulness which prevails throughout that cold but agreeable country, will greatly contribute to produce that hilarity which is always so desirable in such cases.

ART. VIII. *On the Treatment of Diseases of the Respiratory Organs.* Translated from the French of Begin's Therapeutics by Dr. X. TESSIER, of Quebec.

THE organs of respiration are closely connected with the principal viscera of the animal economy, by numerous sympathies. Pulmonary irritations are sometimes propagated to the stomach or the brain; at other times, they are merely the result of a displacement of those irritations which are fixed in one or the other of those organs. Clinical observation demonstrates that the most intense and obstinate pneumoniæ, and consequently the most dangerous, frequently succeed a violent gastro-enteritis, during which the irritation, sympathetically carried to the lungs, becomes predominant in them, whilst that of the digestive canal thereby disappears. Bilious pneumonies, so well described by Stoll, were similar combinations of gastritis or gastro-enteritis, with pulmonary inflammations. We seldom observe both irritated to the same degree, at the same time. One of them generally overcomes the other, and is the more seriously and rapidly affected in proportion to the intensity with which the one which has become free from disease, was the more deeply affected.

These sympathetic relations between the lungs and the stomach do not exist solely during acute diseases, producing metastasis and complicated irritations. The same train of symptoms is to be observed in their chronic stage. Phthisis generally terminates in gastro-enteritis. Gastritis, on the other hand, sympathetically excites that dry, short, frequent, jerking cough, which has of late years attracted the attention of medical men. At other times, it gives rise to vague pains, which are fixed either under the mammæ, or towards the scapula, or in the whole base of the chest. Finally, in subjects whose respiratory organs are irritable, chronic affections of the stomach often bring on latent pneumoniæ, followed by tubercles. It is to be remembered, however, that chronic irritations of the lungs more frequently produce gastritis than this does the former: it may be the reverse in acute inflammations of those organs.

Another sympathy, no less important to be attended to, both by the physiologist and the practitioner, is that which connects the lungs with the integuments. These two organs seem to perform, to a certain extent, similar functions: the pulmonary transpiration is the more abundant as that of the skin is lessened, and vice versa. Hence we may conceive that cutaneous irritations will easily operate on the mucous membrane of the lungs; that their metastasis will frequently be carried to the chest; and that, after, violent excitations of the periphery of the body, cold will have the effect of propelling the fluids on the lungs, rather than on other viscera.

Various other sympathetic relations, which, though less understood, still deserve as much attention, connect the organs of respiration, and especially the lungs, with the external fibrous tissues, the articulations of the limbs, and even with the muscular system, as proved by the facility and frequency of their metastasis on the pulmonary tissue, and the pleura.

With regard to the sympathies of the lungs with the heart, they undoubtedly depend as much on the connexion existing between their functions, as on sympathies, properly so called. The pleura, however, participates very often in inflammations of the pericardium, or extends its irritations to that membrane; all pulmonary affections bring on fever with a degree of rapidity commensurate with their more immediate action on the circulation.

Diseases of the organs of respiration manifest very numerous and varied phenomena; a sense of suffocation, and a hoarse cough, accompany the inflammations called croup; a cough returning at different periods of the day, and attended with long-continued efforts, characterize the hooping-cough; aphony, or a permanent alteration of the voice, with a fixed pain in the larynx and trachea, announce what is called phthisis laryngea; the expectoration of abundant mucus, pungent pain, difficulty of breathing, &c. accompany pulmonary catarrh, as well as pneumonia, pleuritis, and other inflammations of the respiratory organs.

Placed within a cavity, enclosed by moveable and elastic, but incompressible parietes, these organs when diseased cannot be so immediately and correctly investigated as other parts of the body; and if we add to this circumstance the variety of accidents to which their diseases can give rise, it will not be wondered at that their diagnostic should have been so difficult until the days of Awenbrugger, and the researches of M. Laennec. In this respect, authors have been long mistaking effects for causes, and symptoms for diseases. Difficulty of breathing, asthma, and cough have had their place in the nosological tablets, and therapeutics was overloaded with incisives, pectorals, expectorants, &c. Pathological anatomy was alone capable of demonstrating that expectoration, dyspnœa, and cough, may be the effects of divers affections, which must form the basis of all curative indications, and become the exclusive object of all medications.—The physiological physician has no longer to treat croup, asthma, hooping-cough, catarrh, difficulty of breathing, &c. but he has before him such diseases as the following: laryngitis, tracheitis, bronchitis, pneumonia, pleurisia, dilations of the heart, &c. all of which convey correct ideas to the mind, and have an evident seat which leaves the traces of its impression on the body after death.

Therapeutically considered, the diseases of the respiratory organs, which call for the use of debilitating agents, may be divided into acute or chronic irritations of the larynx and trachea, of the mucous membrane of the bronchiæ, of the parenchyma of the lungs and of the pleura. To this limited number of affections, which are sometimes isolated, but more frequently combined, we are evidently to refer, either as symptoms, or as material consecutive disorders, all those diseases and alterations which may affect the organs of respiration, and are the objects of such multiplied pathological and anatomical descriptions.

There are several means by which the physician can debilitate the organs of respiration; they are, 1st, lenient drinks; 2d, evacuations of blood; 3d, emollient fumigations, and the various substances which are sometimes used in the form of vapour; 4th, calming and sedative applications on the external surface of the chest. These medications, to which we may add rest of the affected part, are susceptible of being resorted to either simultaneously or combined in various ways, according to the indications to be fulfilled. Let us now consider each of them separately.

All lenient, mucilaginous and gummy drinks, act in a special manner on the mucous membrane of the lungs. This action seems to be sympathetic of that which those fluids exercise on the internal membrane of the digestive organs; at least, they operate so suddenly after their ingestion, that it is not probable to suppose the absorption of their particles could have taken place in so short a time. Thus, in some subjects, the acrid heat of the chest, and disposition to cough, are diminished at the very moment when a cup of infusion of mallows, or of a solution of gum reaches the stomach. The moment a pastile made of the paste of marsh mallows is placed into the mouth, its lenient effects are immediately felt. We are not, therefore, to place too much confidence in the passage of medicinal particles into the blood, or in their immediate action on the pulmonary tissue. On the other hand, those particles are generally much altered by the digestive action of the stomach, intestines, and lymphatics. But we cannot deny the possibility of a rapid inhalation of a large quantity of aqueous liquid, which perhaps preserves some mucilaginous quality, and exerts on the composition of the venous blood, and consequently on the lungs through which that liquid is carried, a more or less considerable action, which is added to, and fortifies the sympathetic influence already exercised by the stomach. The effect of both these orders of impressions, produced by emollient substances, is that the mucous surfaces of the pulmonary passages are thereby lubrefied, relaxed, smoothed, and relieved. Under their influence, the pain in bronchitis is diminished; the cough is less frequent, troublesome and dry; they relieve the heat of the irritated parts; and even in pneumoniæ, emollients taken into the stomach, often subdue the violence of the symptoms, and not unfrequently perform a cure.

Some of the emollients enumerated in the first part of this section, such as marsh-mallows, lungwort, wild poppies, jujubes, gum arabic, the broth of frogs and of snails, the yelk of the egg diluted in water, seem to possess a decided influence on the pectoral organs. They are generally employed in the form of infusions, decoctions, syrups, and pastiles.

Vegetable acids are not proper in phlegmasiæ of the lungs: some may, however, be used to season mucilaginous substances, such as pippins, oranges, and other acidulated vegetables, when the fever is high, and the dryness of the mucous membranes and the internal heat considerable.

We must here notice the errors into which empirics have generally fallen in prescribing hot pectoral emollient drinks. These liquids should not be given cold even in the most acute phlegmasiæ, as they would thereby lose much of their soothing and relaxing property. But, when given hot, they excite the circulation of the blood, and a general stimulation, and operate as diuretics or sudorifics. In such cases, when the pulmonary irritation is gentle, recent, and, as it were, superficially extended to the mucous membrane of the bronchiæ, hot drinks may displace and even remove it altogether, by occasioning an over-excitement in the kidneys or in the exhalents of the skin. They may then be considered as revulsives. But when the pulmonary affection is violent, and deeply seated, their action failing to displace the irritation, increases the disease and becomes injurious. Sydenham had observed that the perspiration occurring spontaneously in pectoral diseases is favourable, while those artificially produced may prove hurtful. In prescribing warm pectoral drinks against pulmonary inflammations, the physician is not unlike the vulgar who administers hot wine in these diseases. He exposes his patient to equal chances of either curing or increasing the disease. I believe it important, however, for the practitioner to prescribe, in cases of inflammation in the chest, lukewarm mucilaginous drinks, at the temperature of thirty or thirty-two degrees of Reaumur: if colder, they will act as excitants, and consequently be injurious, whenever they prove insufficient to operate a salutary revulsion.

These drinks should be taken plentifully, owing to their promoting perspiration, through which part of the aqueous particles are constantly elicited, and because the lungs being in a state of irritation, the blood in passing through them, requires to be rarefied in order to produce no stimulant impression on their tissue.

The second indication, blood-letting, acts with as much energy and efficacy on the organs of respiration as on the external parts of the body. In order to be consistent with the order of this work, I ought only to mention here local bleeding; but letting blood from the veins possesses such immediate and important influence on inflamed lungs, that I cannot forbear giving them a particular attention in this place.

The lungs are to be considered as a dependence of the vascular system; their functions are intimately connected with those of the heart, and they serve as an intermediate organ between its right and left cavities. The most important of those functions is that of imparting to the venous blood, those properties which are necessary to the proper excitement and nourishment of all organs and tissues. It is evident that this conversion of venous into arterial blood, in whatever light we may view it, cannot take place without a special action of the parenchyma of the lungs, which must thereby become the seat of a more or less considerable excitation, and e degree of congestion of blood. We all know that the greater the mass and rapidity of the blood throughout the circulating system, the more will the lungs be excited, exhausted, or irritated by its more frequent passage through them. If on the other hand, the pulmonary tissue and the mucous membrane of the bronchiæ are then in a state of acute or chronic irritation, it is evident that the febrile excitement as well as the mass of blood will thereby tend to increase that irritation.

We may, therefore, conclude from these facts, that the letting of blood from the veins has a direct tendency to lessen the activity of the functions of the lungs, by taking away a portion which these organs would elaborate in a given time, lessening the rapidity of the circulation, and thereby increasing the interval between each jerk of blood to the lungs, and each inspiration. This local effect is, to a certain extent, independent of that produced by general evacuations of blood on the whole of the vascular system. By lessening the mass of blood in the pulmonary artery, the organ is reduced to a state of rest, resulting from the diminution of its contents; and by relieving at the same time the bronchial arteries, the irritated tissues become free from a part of that blood which nourishes them, and contributes so powerfully to increase their over-excitement.

Local blood-letting never had heretofore been attended to in the treatment of pulmonary complaints; it fell to the lot of physiological physicians to demonstrate the good effects produced by this means, which was already employed with success against a number of other diseases. Leeches applied to the chest may be considered as acting locally on the lungs, such is the rapidity of their effect on those organs, and such the evident success attending their application. The close sympathy uniting the thoracic viscera with the corresponding regions of the skin, explains satisfactorily the effects of those capillary bleedings on the parenchyma of the lungs; it might perhaps also be said that by drawing a more or less considerable portion of blood into the divisions of the intercostal arteries emanating from the aorta, they diminish in a direct manner the quantity of that fluid which is to fill the bronchial arteries arising from the same trunk. This action, however, I consider as subordinate to that which takes place by the agency of the sympathies. It is, undoubtedly, by their action on the lungs, as on other organs, in relieving the irritation of the affected tissues, and lessening the violence with which the arterial blood is carried to them, that capillary blood-letting will remove local excitements and their subsequent effects.

In the treatment of diseases of the chest, warm emollients applied to the thorax must be considered as powerful auxiliaries to general and local bleeding. By drawing the blood to the surface, and promoting perspiration; by keeping up a moist, equal, and continued heat on the outside of the chest, emollient cataplasms or fomentations operate on the lungs as derivatives, and by means of the sympathies, as direct relaxing agents. Those applications are always useful; in acute inflammations of the bronchiæ, and of the pulmonary tissue, I have seen them produce a sudden diminution of pain, an evident internal relaxation, and a decided beneficial effect upon the cough. Those means must not be considered as the most powerful that therapeutics possesses.

Some precaution, however, is necessary in their employment: fomentations with several folds of flannel dipped into a decoction of the roots of marsh-mallows, after being strongly pressed to let out the fluid, and applied burning to the thorax, are to be preferred to cataplasms. The whole chest must be covered with them in all its extent, and from one side to the other. This topic possesses all the benefit of cataplasms without partaking of their inconvenience, inasmuch as it is less heavy, easier to be renewed, less fatiguing to the patient, without having the same tendency to shift and get cool. Two compresses should be kept in readiness, that one may be applied as soon as the other is removed, and that the skin, which is then moist and warm, should not be exposed to the contact of the air. These details are important in practice, and we often see the most appropriate means fail, owing to the imperfect and vicious manner in which they are used.

It is difficult to act directly on the mucous membrane of the lungs. Emollients can only be used in the form of vapour, such as that arising from boiling mucilaginous decoctions. Some sedative and narcotic plants are often added to them with advantage, as henbane, morel, poppies, &c. M. Alibert says that, in the case of a woman afflicted with violent cough, threatening suffocation, he succeeded in allaying the spasms of the respiratory organs and relieving the patient by having the room completely filled with the vapour arising from a decoction of marsh-mallows and other emollient plants. I have obtained the same result in two or three cases of violent cough, with acute and lacerating pain in the bronchiæ. Some cases are related where, in similar diseases, and in catarrhal phthisis, good effects have resulted from the vapour of sulphuric ether mixed with the air. Living in low damp places loaded with matter obnoxious to respiration; the atmosphere of stables and of other places filled with animals who rarify and impoverish the air, deprive it of oxygen, and overload it with carbonic acid, with aqueous vapour and animal matter, have been extolled by a number of practitioners, but never produced any well established success, and will be advantageously supplied by the means indicated above.

Pneumatic chemistry had hardly paved the way to the valuable discoveries to which it subsequently led, when medical men entertained the hope of its affording some powerful and new mode of acting on the organs of respiration. But, in this as in other cases, stimulants were first resorted to.— Little attention was given to those gases which were susceptible of lessening the action of the lungs, and thereby diminishing the irritation seated in them. M. Marc has, however, collected some facts which would appear to point out the advantage of recurring to that practice. The physician caused his phthisical patients to inhale air containing a greater quantity of azote than in the natural state, and in two cases there was a decided diminution in the violence and force of the pulse. One of them remained several days without fever, and his colliquative sweat had disappeared; but a relapse, occasioned by some imprudence, banished all the hopes he had entertained of recovery. The same practitioner has administered carbonic acid, with some success, in chronic inflammations of the trachea.

These observations prove that the combination of several gases is susceptible of modifying the action of the lungs, and of affording some relief in their affections; but our knowledge is yet too limited on that point to lay down any precise rule relative to their employment. The immediate debilitating medications of the mucous membrane of the lungs, may then be finally reduced to the following: inhaling the vapours of relaxing and gently narcotic vegetables; inhabiting low, damp places, loaded with animal matter, and where the atmosphere cannot be renewed without difficulty.—But medicine places little confidence in the former, and has altogether justly proscribed the use of the latter.

Having examined what I might call the elementary medications by which the practitioner may lessen the vital activity of the thoracic viscera, let us now consider what application he is to make of them in the numberless diseases of the organs of respiration.

Of the treatment of acute inflammations in the organs of respiration.—It is somewhat easy for the physician who possesses accurate ideas of the nature of the various affections of the organs, to apply the rules we have already laid down for their treatment.

Violent and decided inflammations of the mucous membrane of the pharynx, larynx, and trachea, should be treated locally by means of leeches to the neck and parts corresponding to the seat of the affection. Emollient lotions and fomentations should afterwards be made to promote bleeding from the punctures. This treatment, when actively employed at the commencement of those diseases, seldom fails to check their further progress. Emollient gargarisms in the various species of cynanche, and the inspiration of vapour arising from a decoction of marsh-mallows when the larynx of the trachea are affected, will always prove beneficial when added to the other means already indicated.

We are to follow the same plan when inflammations of the throat, pharynx, and trachea are so intense, and the sebaceous glands so stimulated as to give rise to the formation of pseudo-membranes over the affected parts. Adults, as well as children, are exposed to that disease called by authors gangrenous sore throat; but the latter are almost exclusively liable to that form of laryngo-tracheitis, in which false membranes are produced, and constituting the croup. A close examination of facts and of symptoms clearly show, that the latter is but an inflammation of the mucous membrane lining the upper part of the aerial passages. MM. Chaussier, Neysten, and others, have observed it in adults in consequence of inhaling chlorine or ammonia; others have produced it almost ad libitum in animals, by irritating their larynx and trachea.

Here also abundant local bleeding is the most efficacious means of checking the irritation, and preventing the formation of false membranes. These anormal productions are nearly void of danger in angina; but in laryngitis and tracheitis they prove an obstacle to the introduction of air into the lungs, and their presence generally brings on suffocation and death.

M. Desruelles has demonstrated* that there exists no false croup. We must also reject the existence of mucous, adynamic, spasmodic, nervous croup, &c. Croup is but one disease; it consists in an inflammation of the mucous membrane either of the larynx alone, or, as is more frequent, of both that organ and the trachea, or the inflammation may sometimes, though very seldom, extend to both these organs and to the first divisions of the bronchiæ. The spasms and other accidents accompanying it, are the result of the sympathy exercised on the brain by the affected parts; the adynamic and ataxic symptoms are the result of a complication of the disease with a violent gastro-enteritis. But the disease is always fundamentally identical, and requires in all cases the same local depleting treatment. As soon as the symptoms of croup begin to appear, whatever be the temperament of the subject, and the nature of those general symptoms, we must immediately have recourse to copious local bleeding, in a quantity proportionate to the intensity of the symptoms and the constitution. We are not to be deterred by the fear of weakening the patient; but give all our attention to the imminence of the danger. The inhaling of aqueous and emollient vapours, will greatly promote the good effect of blood-letting. It is only after the violence of the laryngo-tracheal irritation has been diminished, that we may successfully employ revulsives as hereafter indicated, if the symptoms should not subside.

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* *Traité théorique du croup.* Paris, 1828, in 8vo.

The inflammation of the pulmonary mucous membrane, or of the bronchiæ, also requires the use of antiphlogistics: the patient should be kept in an absolute state of rest, free from exposure to cold; he must take emollient and mucilaginous drinks; his chest must be covered with flannel, either dry or impregnated with a warm decoction of marsh-mallows. In these affections, Stoll never neglected the inhaling of aqueous vapours, which he called with truth and energy, bathing of the lungs.* Should the cough be painful, and a burning sensation felt in the chest, the treatment must be more active; leeches above the superior part of the sternum, in the pit formed by the intermediate space between the sterno-cleido-mastoidei muscles, will then be found highly serviceable. In this place, they aet almost immediately on the inferior part of the trachea; the relaxation they occasion is soon propagated to the most proximate divisions of that tube.—When fever, pain, and spitting of blood accompany those symptoms, the strictest diet and general bleeding are imperiously called for.

Every practitioner will be convinced of the justness and importance of the remark, that inflammations of the mucous membrane of the lungs should always be treated with greater activity and perseverance, as they are more susceptible of either producing or aggravating croup or pneumonitis, or of continuing under the chronic form, and thereby constituting incurable pulmonary catarrhs, terminating in phthisis.

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* Stoll, aph. 134.

It is also proper to observe that, in these cases, the antiphlogistic treatment should be persisted in, until the symptoms have entirely subsided; by having too soon recourse to tonics, excitants, and other similar remedies, the irritation will be reproduced, or its complete cure prevented, thereby allowing it to proceed until it has extended its ravages to the parts affected.

One of the most serious inconveniences arising from ancient nosologies, was that of separating, by distinct sections, diseases which have the greatest affinity amongst themselves, and which are easily converted the one into the other. The greatest resemblance exists between pulmonary catarrh or acute bronchitis, and a slight pneumonia: although these diseases appertain, the one to mucous, and the others to parenchymatous inflammations. But the anatomic-physiological order followed in this work, connects those affections; it allows us, in describing them, to imitate the almost insensible gradation which nature itself has placed in their developement.

Owing to the importance of the organ it affects, the rapidity of its march, or to its immediate or remote dangers, pneumonia is one of the most serious inflammations which can attack the human body; one which consequently requires the most prompt and active treatment, and the most conformable to a sound medical doctrine. This treatment, apparently so easy and simple in theory, is practically complicated, and surrounded with difficulty and uncertainty. If, in simple cases, in adults, where the pulmonary irritation is moderate, the equilibrium should manifest a tendency to return; and if the practitioner can then with safety confine himself to promoting the salutary effects which he witnesses, his task is often more delicate, and on his inaction, or on the means h-resorts to, will sometimes immediately depend the recovery or loss of his patient.

In order to direct a methodical treatment of the pulmonary inflammation, it is necessary to determine what rules are to direct the practice of blood-letting, what other indications are necessary, and what are the most efficacious means to be employed against those pneumoniæ, called nervous, bilious, adynamic, ataxic. Although emetics in large doses are not to be considered here as debilitating remedies, I will notwithstanding examine their action; for, according to some persons, it has a decided counter-stimulant effect, and thus compared with the other appropriate means of treatment, it will be easy to form a correct judgment of its advantages or of its dangers.

It has already been demonstrated, that general bleeding has a very powerful local effect on the lungs; it contributes immediately to diminish the irritation which, in pneumonia, is seated in the parenchyma. The intensity of the disease, the period to which it has arrived, the age and sex of the subject, are as many circumstances influencing the treatment.

When pneumonitis is slight, recent, with little fever, but difficulty of breathing, or acute pain in the chest, ten or twelve ounces of blood from the arm will afford considerable relief, and convalescence will speedily commence. Blood-letting will then have carried away the disease. We might perhaps strictly dispense with it; but its only inconvenience is a small degree of debility, whilst, by abstaining from it, the longer continuance of the symptoms will debilitate the patient still more, and expose him to the still greater mischief of disorganization of the viscus, or of the disease assuming the chronic state.

When the inflammation is more violent, the necessity of bleeding is more pressing. Two circumstances may then present themselves; the patient may have a large, hard, and full pulse, and the skin may be warm and turgescent, or he may be weakened, threatened with suffocation, and his pulse small, deep, and almost insensible. In the first case, bleeding from the veins is urgently called for, and it must be in the quantity of twelve or eighteen ounces, taken suddenly, and from a large opening, in such a manner that the lungs may be rapidly freed from a large portion of the blood contained in them.

Experience has not confirmed, at least in this country, the dangers which Ouarin and Hildebrand have attributed to the syncope following such evacuations. It may be proper, and sometimes prudent to prevent this accident by immediately closing the veins.

The apparent prostration of strength, in acute pneumonitis, should not deter us from evacuating blood; but we cannot then resort to that measure with as much confidence and energy. I am aware that, in such cases, a large bleeding has succeeded in suddenly removing the prostration, orthopnea, and elevating the pulse as well as all the organic actions; but I am convinced that, in many other instances, this practice has increased the prostration, prevented a reaction, and proved injurious.

When a violent and extensive inflammation of the lungs has occasioned a sympathetic disorder in all the vital actions, and when the heart, under the pressure of pain, moves with difficulty, it cannot be doubted, but that a too sudden abstraction of blood will maintain the prostration of strength, and produce an unfavourable result. It is then necessary, and this precept is of the highest importance in practice, to resort only to a sort of exploratory bleeding, by making a small opening in the vein, and attentively examining the effect of the evacuation. Sometimes, as the blood flows, the patient finds himself relieved, the pulse rises, becomes stronger, and the respiration more free. With this admonition, the practitioner must persist, and substitute copious bleeding for that which he did not at first intend to carry further than a few ounces. When the evacuation does not produce that salutary result, and when the prostration continues, six or eight ounces will be sufficient, observing the ultimate effects. If, after a few hours, the pulse becoming stronger and larger, announces the rising of vital action, then bleeding may be repeated: and it is not uncommon to observe the letting of blood, continuing in its salutary effect, restore the disease gradually to its congenial state of simplicity, and effect a speedy cure.

These symptoms of pneumonitis, notwithstanding, are very serious, especially when they occur in subjects exhausted by fatigue, excess, or antecedent diseases. Should, then, the prostration of strength be great, the anxiety extreme, and the muscles trembling, we are to confine ourselves to local capillary evacuations, and afterwards to revulsives. Phlebotomy is afterwards practicable only when the pulse has risen and acquired some vigour.

Pneumoniæ, even the least complicated, are frequently accompanied with pleuritis, and a violent pain in the side, which is increased by coughing, and renders breathing laborious. In these cases, it becomes necessary, after one or two general bleedings, when pain in the lungs and pleura exist, to cover the corresponding region with leeches. This practice, sanctioned by experience, is followed by the most favourable results. N. Lerminier, who has adopted it, sometimes applied leeches before the vein is closed, in order that capillary evacuation may corroborate the action of the general bleeding.

The state of respiration, more than that of the pulse, indicates the necessity to bleed. A difficult breathing, accompanied with a crepitating and rattling noise in the throat, urgently calls for evacuations of blood, which must be made in the manner and with the precaution already indicated. The benefit derived from bleeding will be in proportion to the velocity with which the blood flows, and to the thickness of the buffy coat. This remark of Sydenham and Hildebrand is confirmed by daily experience. After the first evacuation, the relief it had procured will be followed in a few hours by the recurrence of the irritation, of the congestion, and of the symptoms which it had before subdued. But the violence of the disease grows less and less, and bleeding is to be again resorted to. The inflammation generally returns several times in this manner, with less intensity, until it disappears altogether under this treatment.*

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* Inflammation in the lungs is one of the most serious affections of the

Young children, as well as old people, afford no exception to the necessity of bleeding in acute pneumonitis. In those cases of inflammation of the lungs, so frequently occurring in rubeola, in consequence of the abuse of heat in their treat-

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kind that can occur, if we consider its decided influence in producing consequent disorders, which are the more to be dreaded as they are totally beyond the reach of therapeutical agents.

Blood-letting is undoubtedly tha most powerful means we possess of putting an effectual check to its progress; but that mode in which that remedy is to be employed to the greatest advantage, may yet be a proper subject of meditation, considering the importance of the disease.

The state of protracted debility which is apt to follow the long employment of appropriate remedies, as well as the absolute abstinence which it is so imperiously necessary to insist upon for a long period, constitute circumstances which, added to a long and difficult convalescence, are uncommonly favourable to the formation of tubercles or of abscesses.

If my judgment does not deceive me, I have observed that, in inflammations of the lungs, full and vigorous bleeding carried to such extent as to leave hardly any more strength than is necessary to the support of life, is much to be preferred to ordinary, though frequently repeated evacuations. As far as my experience has enabled me to judge of the expediency of that treatment, I think that, whenever any of the consequences to which I have just alluded take place, the worst that will occur has been uniformly abscesses, when the vigorous treatment I mention had been resorted to, and tubercles, when evacuations had not been more abundant than in other inflammations. In the former case, convalescence was shorter than in the latter, although debility appeared as great in the one as in the other. Indeed, it may not be incompatible with our knowledge of the laws of vitality, to suppose that a protracted convalescence is not so much the result of a vigorous and depleting treatment, as of the duration of a disease. Three or four pounds of blood is the quantity I generally draw, and notwithstanding the insignificant and vague caution of authors of consulting the temperament, sex, and other circumstances of the patient in letting blood, which saves them from the difficulty of pronouncing on any exact rule of conduct, and by means of which some practitioners, for the purpose of shielding themselves from the reproach of mal-practice, might perhaps urge the existence of such circumstances as excluded the possibility of bleeding at all; notwithstanding those circumstances, I say, I have seldom drawn less than three pounds of blood at a time. Perhaps this may be referred to the strong constitutions of the inhabitants of the northern climates of America; but I may say that in those subjects which evinced that peculiarly strong constitution, the quantity was greater.

ment, Sydenham considered bleeding from the arms as necessary, even in tender infants. He sometimes repeated the operation which, according to him, may be practised with as much safety a few months after birth as in adults. This conduct is that which the most judicious physicians of the present day have adopted, substituting, however, during the first years of infancy, leeches applied to the thorax, and to the opening of veins, whenever the disease is not violent. Until the veins are fairly developed, it is somewhat difficult to obtain a sufficient quantity of blood from their opening; leeches, therefore, applied in sufficient number will draw as much blood, and the effect will extend to the lungs with as much rapidity, owing to the delicacy of their constitution.

With regard to old people, J. P. Franck bled nine times with success a man 80 years old affected with pneumonia.—Old people will bear a greater loss of blood in this disease than in any other. A long experience has established the nenessity of an energetic treatment at the commencement as well as towards the end, of inflammations of the lungs. This course will be as successful in old people as in adults, provided the lungs are not already the seat of some chronic inflammations of long standing.

Pringle, one of the most celebrated practioners of the last century, had established that after the fifth or sixth day at the latest, bleeding is dangerous, and ought to be banished from the treatment. This assertion was echoed by a number of practitioners, and became a sort of axiom, the authority of which stood a long time uncontradicted. But after a mature examination of all the circumstances of the disease, the max-

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I say again, if my judgment has not been incorrect, with repect to the variety of termination which I have observed in the varieties of inflammations of the lungs, in consequence of a difference in the quantity of blood taken from the system, I would confidently recommended further trials, for the purpose of ascertaining how far this may be sanctioned by other observations.—*Trans.*

im of the English physician was gradually neglected. There is perhaps no practitioner at the present day who, in the employment of bleeding, does not rather consult the state of the pulse and of respiration than the age of the disease. It cannot be denied, however, that, after the first six or eight days, a resolution of the inflammation is more difficult to be obtained, and evacuations of blood must be more moderate, and less powerful than at the invasion of the disease. But they will prove beneficial at all periods, whenever they are called for by the state of the irritation. In medical practice, an attentive observation of the symptoms is always to be substituted for those arbitrary rules, more dangerous than useful, which were originally founded on the hypothetical reasoning of the critical days.

It is proper to mention here other debilitating agents which are to be added to the employment of local and general blood-letting.

Mucilaginous and gummy lenient drinks, when administered lukewarm, are the most efficacious means of subduing the accidents generally attendant on pneumonia. Decoctions of marsh-mallows, solutions of gum, properly made sweet, and syrups composed of the same substances, should be made the ordinary drink of the patient. An absolute diet, and abstinence of the lightest broths, are indispensable, especially during the first days, and when the disease is in all its vigour.—As the irritation subsides, the patient may be indulged some light nourishing substances, as the yelk of eggs diluted in water, chicken broth, &c. until convalescence being confirmed, he may be allowed some more nourishing food.

Emollient fomentations on the chest, but particularly on the region affected, and inhaling vapours of the same nature, should never be neglected in acute pneumonia. In irritable habits, it will be proper to add one or two white poppies to the linseed and marsh-mallows which are to compose the liquid and the fomentations, thereby producing a narcotic effect calculated to allay the nervous susceptibility. Two ounces of the dried leaves of morel, and four buds of poppies, boiled in two pounds of water, produce a similar but rather more narcotic decoction, which in some cases, is more beneficial than the former composition.

In the course of pneumonia, two symptoms are to be strictly attended to, cough and expectoration. The former, which is often so frequent, and accompanied with a painful sense of laceration internally, is generally allayed by the means already enumerated. When, however, it persists in annoying the patient, and contributes by continual retchings in keeping up, and even increasing the pulmonary irritation, it will be relieved by potions composed of gum arabic, anodyne syrup, and some pectoral infusion. A looch made of twenty grains of gum adragant; syrup, one ounce; oil of sweet almonds, two drachms; aq. flor. aurantium, two ounces, mixed with four ounces* of an emulsion composed of fifteen sweet almonds and half an ounce or an ounce of the syrup of poppies, will then be found highly beneficial. We should not, however, resort too soon to those measures, nor place too much reliance on them: prudence should always bring to mind that in pneumonia, the cough is the effect of the irritation, and we cannot expect to allay the former before the latter is subdued.

These reflections are applicable, in every respect, to expectorants. None should be given but those which have a tendency to appease and subdue the irritation, others would stimulate the mucous membrane, and turn to benefit the disease and not the patient. All pretended expectorants should never be used during the first stages of inflammation, and even at more remote periods in its course, owing to their irritating property. The circumstances in which they are proper will be pointed out hereafter.

The most important but easiest question to solve at present is, whether the principles hitherto laid down are adapted to the treatment of those acute pneumonitis qualified by the name of nervous, adynamic, bilious, atonic, &c.

There are subjects in whom the slightest, as well as the most violent diseases, determine a more or less considerable degree of excitement of the nervous system, thereby occasioning unusual accidents in the parts affected, in the brain or any other organ abundantly supplied with nerves. Pneumoniæ thus complicated have been, by some, designated by the name of nervous pneumonitis. It will readily be seen that, by subduing irritation in the chest, the sympathetic nervous disorders to which it gives rise, will secondarily disappear. When the latter are very intense, it may perhaps become necessary to add, to antiphlogistics and depletion, such secondary measures as will diminish the susceptibility and stimulation of the nerves.

A very important organ, the stomach, participates in many cases of pulmonary inflammations. This complication of pneumonia with gastritis or gastro-enteritis constitutes one of the most dangerous diseases to which the human species is liable. The physician must then attempt to discover which of the two inflammations is primitive, and has given rise to the other. Bilious pneumonia, or that which is complicated with gastritis, requires, on the one hand, the means indicated above, on the other, those debilitating medications applicable to the digestive canal. It is proper to insist on especially directing the treatment of that which is the most violent, and appears to exercise a control over the others.—It should be remembered that, in some constitutions, the symptoms of pneumonitis are almost illusory, and being the sympathetic product of gastritis, they disappear with it.

Should those nervous symptoms be carried far, or should gastro-enteritis complicate the disease and excite the sympathies, both these cases will constitute what some have called ataxic pneumonia. Such circumstances are necessary to be known; in the former, encephalitis is directly brought on by the inflammation on the lungs; in the latter, the irritation of the stomach and intestines serves as a medinm between the other two. In the first of those complications we are to attend to the pneumonitis, previous to the nervous symptoms; in the other, we are to disseminate debilitating medications over the head, lungs, and abdomen.

Pneumonia, as well as gastritis, and other inflammations of the viscera, lead to adynamy. The lungs undoubtedly act with less vivacity on the nervous system by means of sympathies, and draw to themselves the vital actions with less energy than the stomach; but experience shows that their violent and extensive inflammations may bring on the most complete prostration of organic strength. The obstacle to the circulation resulting from the obstruction or hepatization of their parenchyma, tends in a great measure to induce that state of adynamy. This sort of complication is highly dangerous, and calls for local antiphlogistics and revulsives, which will be examined hereafter.

The practitioner must carefully distinguish the species of adynamy which might be called pulmonary, from that arising from a complication of pneumonia with gastritis or gastro-enteritis. In the former, the digestive canal being free from disease can admit of stimulants, which it is often necessary to employ as revulsives; in the latter, the abdomen requires the same treatment as the lungs.

I cannot conclude this article without insisting on the indispensable necessity of pursuing an antiphlogistic course of treatment, until the local symptoms of pneumonia have entirely disappeared. In order to detect the last traces of irritation, the stethoscope affords a precious means with the use of which physicians cannot be too familiar. As long as this instrument indicates obstructions and inflammation, we are to insist on a severe regimen, emollient applications, small evacuations of blood, and mucilaginous gummy drinks. Some revulsives, as will be seen hereafter, should be had recourse to in order to promote a resolutive process of the irritation; but practitioners cannot guard too strictly against those myriads of irritants in the abuse of which our predecessors have so much indulged. They should also be warned against imperfect convalescence, and against the imprudence of patients resuming too soon their occupations. Pulmonary affections may be followed with such dangerous consequences, the irritation becomes so easily inveterate, and gives rise to such extensive disorganizations, that we cannot be too careful in curing them completely before the patient is allowed to return to his usual labour. We may assert that out of ten patients who leave the hospital with some cough and expectoration, however inconsiderable, eight or nine will one day return with incurable symptoms of phthisis.

The history of the treatment of pneumonia would not be complete, if I did not add some remarks on the use of large doses of emetic, which is considered by some as a direct debilitant.

The new Italian doctrine appears to have been invented with the view of confounding empiricism, conciliating the therapeutics of the ancients with the theory of modern times, and consecrating the following aphorism as a paradox: *similia similibus curantur*. Such is the language of a young enthusiastic partisan of counter-stimulation, which he has put forth in the name of one of the professors of clinical medicine, in the Faculty of Medicine of Paris. He passes the highest encomium on the success of emetics in acute peripneumony.*

M. Rasori places on the same footing blood-letting, and the most energetic stimulants, and considers the latter as a good substitute for the former, which may sometimes be dispensed with in their employment. His most favourite remedy is tartarized antimony. When the disease is mild, he confines himself to that remedy, but when it is more violent, he begins by bleeding, which according to him, takes away part of the stimulus, renders the constitution more susceptible of the impression of the specific, and enables the physician to give it in larger doses. Some persons think that the Italian professor treats pneumonia with emetics alone. This opinion, however, is erroneous; for he frequently has recourse to blood-letting, and in several of the observations he has published, that operation was performed five, eight, twelve, and even sixteen times in a few days, without, however, discontinuing his favourite medicine. The violence of the disease, the force of the reaction, and what he calls the quantity of stimulant diathesis in the patient, are the circumstances which influence his treatment. Blisters to the thorax or to any other part of the body, emollient fomentations on the chest, as well as mucilaginous and gummy drinks so proper to allay the cough, are the only remedies which he rejects without exception or appeal, as being merely calculated to occasion a loss of time prejudicial to the patient. A solution of tartarised antimony, is the only drink and remedy he prescribes.

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* Observations on the use of large emetic doses as a curative means, collected at the clinical practise of the Hopital de la Charité, and published under the authority of Professor Laennec, par V. Delagarde.—*Archives generales de Medecine*, t. IV.)

His mode of administering emetic is very simple. He dissolves the remedy into two pounds of barley water, or any other diluent drink, and gives the whole in the space of *twelve* hours by small, repeated doses. At the beginning of the disease, he generally prescribes twelve or twenty grains of tartar emetic, increasing the dose as the disease advances, to twenty-four, thirty-six, seventy-two, and sometimes ninety-six grains, in 24 hours. He has gone so far as to give one ounce of emetic tartar with two drachms of kermes mineral in the course of a disease which lasted a fortnight. Far from excluding blood-letting, this operation was added to the above remedies, and in the course of the first nine days, two hundred ounces of blood were drawn by repeated bleedings.

Some physicians have daringly imitated this practice. Dr. Péchier, in Switzerland; Dr. Wolf, in Poland; in France, MM. Fontaneille, Kapeler, Honor, Laennec, Vaidy, and others, have become partisans of the Italian reformer. They, however, employ emetic in a moderate dose, which seldom exceeds six, eight, ten, twelve, or fifteen grains. M. Laennec often dissolves the dose into two or three glasses of an infusion of the leaves of the orange-tree, strongly edulcorated, half a glass of which is given every two hours; but he suppresses the remedy during the night, and differs in this particular with the professor of Milan, except in very urgent cases. Should the emetic be rejected by the stomach, M. Laennec adds one ounce of the syrup of poppies. M. Vaidy gives a spoonful every hour of a solution of the emetic in six ounces of a gummy drink.

Such are the formulæ and the manner in which high doses of tartar emetic are generally administered for the use of pulmonary inflammations. Their effects are variable. M. Rasori has generally observed, however, that if the remedy should at first occasion nausea, vomiting, and alvine evacuations, these effects will soon disappear under its continuance. In some of his patients, twenty-four or thirty six grains in twenty-four hours produced no passage through the bowels. The redactor of M. Laennec's observations says that the first doses will generally occasion either vomiting or purging: but he recommends perseverance, for it frequently happens that the second, third, or fourth dose will check them; finally, when the vomiting or purging is not too evident and excessive, tolerance will soon be established, and the remedy increased and even doubled, without producing evacuations. In the Rasorian language, *tolerance* signifies the disposition in the living organism of undergoing the operation of the emetic without producing either vomiting or purging.

If we credit the assertion of M. Rasori or of his sectarians, tartar emetic speedily cures pneumonia, without exposing the patient to any danger. It is a sort of specific in that disease. It appears, however, from a statement published by the Italian professor himself that the proportion of deaths from that disease has been, out of a hundred, of $22\frac{99}{103}$ at the civil hospital of Milan, and of 14¼ at the military hospital, that is to say, 1 out of 4½ in the former, and 1 out of 7 in the latter, proportions which do not appear uncommonly happy.*

We must regret that the partisans of this doctrine in France have not published such general reports of the results of the counter-stimulant doctrine, which would, undoubtedly, prove much more unfavourable than a direct and well directed antiphlogistic method.

The administration of such high doses of emetic, and their continuance notwithstanding the symptoms they produce, require uncommon courage, or rather a temerity which keeps no account of the morbid phenomena, nor of the diseases which they characterize. Some facts will prove the assertion.

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* Delle peripneumonie, e del curarle principalmente col tartrato stibiato.

A man of weak habit, aged forty-six years, is seized with somewhat violent pneumonia. After drawing eight ounces of blood, the fever is diminished; the tongue red at its edges, white in the center; thirst and bitterness in the mouth, accompany those symptoms.—*Eight ounces of blood are again drawn: six grains of tartar emetic; pectoral drink.* This prescription is followed by prostration, debility, continuance of the fever; bloody expectoration, dryness and red, yellowish colour of the lips; tongue continues of a placid red, purging during the night.—*Tartar emetic, six grains, with one ounce of syrup of poppies.* This prescription is repeated the next day, when the following symptoms appear: greater debility, anxiety, expectoration abundant and viscous; no evacuation. *The emetic is continued.* This day, the patient exhibits the following appearances: extreme debility, face pale, nose sharp, frequent cough, difficult expectoration, pulse small and weak, skin covered with somewhat cold perspiration. Notwithstanding these symptoms, *twelve grains of emetic are prescribed; and blister on the right side.* The face now becomes hippocratic, the skin is covered with a viscous fluid, respiration cavernous in all the posterior and middle part of the right side of the thorax, the tongue is red at its edges and somewhat dry.—*Twelve grains of tartar emetic.* The next day, debility somewhat less; the prescription is continued and the patient seems to improve. He recovers gradually, under the continuance of the remedy, and leaves the hospital after the lapse of forty-eight days, having regained his strength and a little flesh; that is, without having altogether recovered his health.

Such are the facts related, and such the treatment presented to the pupil as examples to follow. It is evident that the subject in this case would, probably, have been cured more speedily and without so much risk for his life, by persevering in the evacuations of blood and lenient drinks, which had at first procured him relief. When the patient has arrived to the last stage of debility, having a hippocratic face, the surface of the body cold and covered with a viscous sweat, does not the mind revolt at the idea of pursuing the course which has reduced him to that condition? And if relief be obtained, can we not felicitate the person who has thus escaped the twofold murderous influence of inflammation and of emetic? The following observation is not less curious.

A man aged aged sixty-one was enjoying good health, when he inhaled the iritating vapour arising from a piece of silver in fusion. He was immediately seized with giddiness, heaviness in the head, and afterwards with nausea and general uneasiness. The patient takes three glasses of wine which produce efforts to vomit, pain at the epigastrium, extreme uneasiness. Three days after the accident he is admitted into the hospital. The abdomen was hard, the epigastrium painful, especially on pressure, tongue red and tending to dryness; frequent alvine evacuations of a green colour. To these symptoms were added those of a light pneumonia of the right side.—Venesectio, ℥viij. Aq. hordei. c. saccharo. Aq. gommosa ad potum. General prostration, delirium, respiration more frequent, dry and rough tongue, purging, increased symptoms of pneumonia. Vulgar practitioners, enslaved by doctrines universally adopted, would have then enforced the antiphlogistic regimen, and applied leeches to the epigastrium, fomentations to the abdomen or chest, and one or two blisters to the legs. The professor, on the contrary, prescribes the following treatment;—Repetatur venesectio; Antim. Tart. grs. vj. cum syr. papav. ℥j; Potus gommosus; Aq. hordei cum saccharo. At four o'clock in the evening, general debility increased; involuntary evacuations of fæces, comatose delirium. Blisters are then applied to the thighs, and the patient is prevented from taking one grain of emetic which had been prepared for him. The next day, alvine evacuations are less abundant, delirium has subsided, thirst still intense, but the tongue appears soft, less dry and red; abdomen yet swollen, but more pliant and not painful. The indication was then evident; nature, in exhibiting the effect of the remedies, seemed to point out to the physician what course he should pursue. Notwithstanding these admonitions, the following remedies are ordered.—Emetic, grs. vj. &c.; Potus gomm.; Aq. hordei cum saccharo. At four o'clock, consequently a few hours after giving the remedy, pulse small, frequent; tongue moist, somewhat fuliginous; thirst intense; abdomen painful at the epigastrium; no vomiting nor purging. A blister is applied to the chest; but the next day the epigastrium always painful; the pulse hardly perceptible, tongue pale and moist. Death in the morning. On opening the body, independent of the traces of inflammation in the lungs, the stomach was slightly inflamed about the pylorus, as well as the lower part of the jejunum.

To the above cases, I must be allowed to add the following.

A woman, sixty-two years old, affected with peripneumony in the right side, is admitted at the Hospital-Necker. The debility and smallness of the pulse repel the idea of bleeding. Fifteen grains of tart. emet. are prescribed, *diluted* into five glasses of decoction of bark. After a few days of this treatment, the redness of the tongue, and the pain at the epigastrium increase. Instead of the emetic, six grains of *sul. ant.* are given, and the next day twelve grains. An abundant diarrhœa compelled them also to abandon this remedy. The patient, however, they said, appeared to improve, when she suddenly died after a copious meal taken furtively.

I attach some importance to relating these facts, in order to oppose them to those who maintain that large doses of emetic tartar can be given with safety. The partisans of this method pretend to be founded on successful results; but what method has been entirely void of success? On the other hand, they generally combine, in the most urgent cases, both bleeding and emetic, and it remains to decide which of the two has performed the cure. Who can say that evacuations of blood are not sufficient to counterbalance the baneful effects of the emetic. In a word, we have just seen to what dangers this remedy exposes the patient, before it can effect a cure. M. Delagarde himself also observes that, when emetic tartar is administered, the inflammation does not the less run through its periods, and that the patient, rescued from the most imminent danger, is again brought to life by a sort of miracle.*

Let us compare the effects of that method, wherein the patient is incessantly agitated by the remedy, and placed between the danger of poisoning and that of exacerbation of the disease, with those of a direct antiphlogistic treatment. If we may credit ocular witnesses, M. Rasori cannot present a report of cases favourable to his doctrine, but by reckoning as pneumonitis all the cases of cough and pain in the chest, however slight, which may have presented themselves to him in his clinical practice, and as cases of phthisis all those acute inflammations which, under the emetic treatment, have proved obstinate, and passed to the chronic state.†

It is evident that by thus including the slightest cases, and expelling the most severe and obstinate, the proportion of cures will be considerably increased. Again, in the return of deaths occurring in his wards, M. Rasori forms a separate class of dying patients (egonissants,) in the proportion of sixty-five out of thirteen hundred and two. It is possible that, in this category, some very severe cases of pneumonia might be found, which, not being able to undergo the first attempts at treatment, must have perished soon after their entry into the hospital. By the ordinary mode of treatment, the proportion of deaths is never greater than appears in the return of M. Rasori; but we might note a much more successful practice. The learned and respectable Hillebrand, for instance, announces that in the clinical practice at Vienna, where he prosecutes the practice De Haen, Stoll, Reinlein, and J. P. Franck, he has only lost one patient out of twenty, affected with pneumonitis, and that all the others had but a short convalescence.‡

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* Vide the work already quoted, page 514.

† Reflexions critiques sur le tableau de la mortalité du grand hopital de Milan, comparée à cellee de la clinique de Rasori, par le Dr. J. Strambio.

‡ Ratio medendi in schola practica Vindobonensi, t. I. translated into

It is evident, therefore, that the partisans of large doses of emetic, in the treatment of peripneumony have exaggerated the innocuous as well as the successful effects of the remedy. M. Sauthier, who has carefully followed the practice of professor Borda, at the bed-side of the sick, asserts that his methods seldom successful,* and that it exposes the patient to imminent dangers. The same physician asserts that the employment of large doses of emetic tartar is generally followed with vomiting, which is, for the most, injurious in pulmonary inflammations, with considerable purging, or intense gastro-intestinal irritations. In two of the cases related by M. Vaidy, the remedy produced effects similar to those which might be expected to follow the administration of a *vomi-purgative.*† Its action is neither safer nor more rational than the operation of that poison. M. Rasori thinks that emetic directly lessens stimulation; M. Laennec asserts that it invigorates the absorbing system; M. Vaidy believes its influence extends directly to the circulation of the blood, restoring its harmony, and subduing the febrile excitement.—None of these hypotheses can stand the test of attentive inquiry, nor are they founded on judicious observations. They are all in contradiction to the experiments made on living animals, which proves that tartar emetic, whilst it stimulates and tends to inflame the mucous coat of the alimentary canal, from the cardia to the orifice of the rectum, irritates the nervous system, and produces obstructions and inflammations in the lungs, of a more or less considerable extent.‡ This remedy acts especially as a revulsive in the treatment of pneumonia, and we will have occasion to elucidate this truth, when

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French by M. Gauthier, under the title of Médecine Pratique, Paris, 1824, 2 vols. 8vo.

* Observations recueilles a l'Hopital de Pavie, Nouveau Journal de Médecine, t. IXV.

† Journal complémentaire du Dictionnaire des sciences medicales, t. XV.

‡ De l'influence de l'emetique sur l'homme et les animaux, Paris, 1813, 8vo.

treating of the revulsions produced on the gastro-intestinal system.

It follows from the above discussions, that the most simple, rational, and efficacious mode of treating pneumonia, consists in the employment of general and local blood-letting; in the administration of sweet, mucilaginous, gummy, and other similar drinks; in the simultaneous application of emollient fomentations to the chest, and in the means calculated to subdue all the symptoms which may complicate the disease. Tartar emetic in large doses, exposes the patient to chances which are nearly all against him; and it places him in a perilous situation which it would be cruel in the physician not to avert, when it is in his power to effect a more safe and speedy cure by other means.

The principles above mentioned, the utility of which is founded on experience, are entirely applicable to the treatment of hemoptysis, an affection which is always attended with some irritation in the lungs, whenever the blood does not proceed from some large blood-vessel corroded or ruptured. Bronchial hemorrhages especially require more abundant evacuations than appear proportionate to their violence to the strength of the patient, and to the quantity of blood already lost by the hemorrhage.

Cold applications to the chest are seldom proper in irritations of the viscera contained within it, owing to their effect in propelling and accumulating the blood in the interior, and consequently in the organs already affected. It has, however, been had recourse to in hemoptysis, but with different results. Ice applied to the chest, in that disease, is too powerful, and may displace the hemorrhage, but will give rise to a violent pneumonia, and especially to a fatal pleurisy.

We cannot, therefore, resort to it, except in the last extremity, taking care to suppress it as soon as it appears to increase the cough instead of relieving it. Cold drinks are infinitely more proper; it will be seen hereafter that they contribute powerfully to lessen the over-activity of the circulation. It would not, however, be proper to resort to them against hemoptysis before having, by previous evacuations of blood, prevented the irritation they might produce on the lungs.

The precepts laid down for the treatment of pulmonary inflammations, are equally applicable to acute pleurisy. The pleura forms, as it were, part of the parenchyma which it covers, and of the irritations of which it frequently participates. The treatment of pleurisy, however, requires two great modifications, in the employment of bleeding; the first is that the quantity and frequency of the evacuation are not as necessary as in pneumonia; the second relates to the use of leeches which, owing to the situation of the pleura, and to its close connexion with the thoracic parietes, will operate more immediately and efficaciously on that membrane than on the lungs themselves. Thus, after one or two general bleedings intended to relieve the respiratory organs, and to diminish the rapidity of the passage of blood through them, a considerable number of leeches, applied to the region of the pain, will produce very speedy relief. Mucilaginous and gummy drinks, emollient fomentations, cataplasms of the same nature to the affected part, and other similar means, should be resorted to at the same time.

I will conclude these considerations by a most important practical observation. In all thoracic inflammations, the treatment should be persisted in until all the symptoms have enrely subsided. The patient is never to resume his occupation before the pulse, respiration, percussion, and the stethoscope, announce the complete return of health. Unlike all the other parts of the body, irritations of the organs of respiration will be renewed, or become chronic, whenever the convalescence is not altogether complete. These organs are the most active of the whole; muscular exercise, irregularity in diet, atmospheric variations; indeed all impressions are strongly felt by them, and tend to exasperate and perpetuate irritations imperfectly destroyed, and to produce the most extensive disorganizations. He may be called extremely fortunate who escapes all these causes of destruction. A complete state of health, and an unlimited energy of all the vital actions, are conditions without which convalescents, after diseases of the lungs, will seldom be preserved against consecutive affections, which always prove more obstinate and more dangerous than the primitive complaints.

Of the treatment of chronic inflammations in the organs of respiration.—With respect to chronic diseases of the lungs, pathology is far ahead of therapeutics. The art, otherwise so difficult, of ascertaining the different kinds of pulmonary affections, has been much more improved than the more important science of curing them. By means of the most scrutinous examination, and of ingenious processes and instruments, we are enabled to ascertain, during life, the slightest pulmonary affections; after death, pathology describes, with uncommon accuracy and minuteness, all the details of the physical disorders of the affected tissues. But from the time that the diagnostic is established to that of a post mortem examination, what part does the physician perform? We may consult the most eminent writers amongst the ancients and the moderns; we may unfold clinical reports, but what else can we find but details of pathological anatomy? It would seem that the professor had removed his chair into the dissecting room.

It is far from my intention to attempt to depreciate researches which have laid the foundation to the present improved state of medicine. My only wish is, that therapeutics should be more seriously attended to by some physicians, and that, somewhat distracted from their anatomical pursuits, they should apply themselves to the art of curing diseases which they have otherwise so beautifully described.

But if medicine is so little efficacious in the treatment of phthisis, it has at least acquired the important knowledge of the means of putting a check to their developement; and, in this respect, it will confer a valuable benefit on humanity, if it can only lessen the number of victims which are daily sacrificed to chronic inflammations in the chest.

In order to attain this end, the first step should consist, as we have already said, in a proper treatment of all acute inflammations of the thoracic viscera, and in our perseverance in antiphlogistics and revulsives until the entire disappearance in all the symptoms. It should not be forgotten that persons constitutionally predisposed to pulmonary affections, have not, as the vulgar pretend, their lungs weak, but merely sensible and irritable beyond what is requisite for the normal exercise of their functions. The most effectual mode of preventing the rise of phthisical complaints, consists in attending to the following directions: avoiding an over-exercise of the lungs, keeping from exposure to cold; wearing a woollen dress over the chest close to the skin; observing a light, although nourishing diet; taking gentle exercise; in a word, removing all direct stimulations from the lungs, as well as all excitations capable of reaching them, whilst carefully attending to calling towards less important organs all energetic vital actions.*

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* After what I have already said on the subject of blood-letting in these complaints, it will not be necessary that I should offer any farther remarks at present, for the purpose of calling the attention of the profession to that subject. My own experience in chronic inflammation of the lungs, without the existence of tubercles or abscesses, has been very limited; and I believe very few practitioners have ever observed many such cases, because it would appear that the period of the chronic termination of inflammation in all other organs, is very nearly that at which the formation of tubercles, &c. most commonly takes place. Should this prove correct, I believe blood-letting and other direct debilitants will be found useless, if not injurious, in this stage of the disease, which may then be pronounced incurable.

Notwithstanding the extensive improvements lately made in the healing art, it is yet a question whether the palliative and almost negative treatment of the ancients in this incipient stage of phthisis, is not yet preferable to all the active and destructive measures recommended and adopted in modern times. Quinine has even been prescribed by some, and it has come to my knowledge, that a physician tried, and persisted in the use of this remedy on himself, until his entire dissolution, which of course, speedily occurred under such treatment.

Of all the various methods which have been recommended for the cure of phthisis, I must say that none seem to be entitled to as much consideration as that of Sir A. Crighton, which consists in the employment of tar vapour, although that gentleman has, no doubt, exaggerated its beneficial effects.

In the first stage of phthisical complaints, active debilitants are indispensable. In bronchitis accompanied with constant and painful cough, frequency of the pulse and difficult expectoration, we are to resort to emollient topics to the chest, general bleeding, when the patient is strong, and leeches to the anterior inferior part of the trachea, or below the clavicles, when he is debilitated. The vapour arising from warm water, that of emollient decoctions mixed with the atmosphere, are frequently useful, whatever M. Broussais may have said to the contrary. This practitioner asserts that vapours can only swell the mucous membrane of the bronchiæ, and increase the sense of fulness and of compression experienced by the patient;* but facts militate against this assertion. It is undoubtedly improper to impregnate the air with emollient vapour, where the membrane is flaccid, turgescent, filled with mucus, and where the expectoration is abundant. This measure would then prove useless and even injurious; but the case is different in irritable subjects, where the expecto-

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In my anxiety to afford some relief in a disease which had heretofore baffled all the resources of therapeutics, I determined to give a trial to this new method, and the result of my experience has been what I had at first anticipated. In all cases of confirmed phthisis, I mean, whenever some disorganizing process has already commenced in the parenchyma of the lungs, tar vapour has afforded some very inconsiderable and momentary relief, where the fever was neither high nor continued, and where the patient was of an obtuse sensibility, and it has rather been injurious wherever the reverse condition existed. But in cases of abscesses, and particularly in vomica, by which I mean a circumscribed isolated abscess, it has proved highly serviceable. We all know that these diseases are susceptible of a spontaneous cure; but I have no doubt that in these cases, and generally where the morbific process is confined to the bronchial ramifications, this method will be the means of averting a termination which would otherwise prove fatal.

In a memoir which I had the honour of presenting to the Medical Society of Quebec last year, on this subject, I related a very remarkable case of recovery by that method, where the disease was so far advanced, that the patient would most indubitably have perished without that remedy.

* Histoire des Phlegmasies chroniques, t. I, 3d edition.

ration is difficult, the cough dry and painful, the mucous membrane dry and the seat of that peculiar sensation in the throat which induces coughing. In these circumstances, experience has established the beneficial effects of a lenient calming topic. Gummy and mucilaginous drinks are also indicated, as they tend to diminish the violent irritation of the bronchiæ. Should the fever and heat run high, those drinks should be acidulated.

When the parenchyma of the lungs is affected, and when the stethoscope indicates some degree of hepatization, local bleeding is beneficial. This carnification is more frequently observable at the superior than at the middle or lower portion of the lungs; and observation has proved that leeches applied to the corresponding region, will frequently be sufficient to cause the absorption of the extravasated liquids, and restore the thorax to that healthy condition when it gives a clear sound, and that tremulous respiratory noise announcing the permeability of the air cells.

An attentive observation, aided by sound physiology, alone teaches to proportion evacuations of blood to the strength of the patient, to his degree of susceptibility and to the obstinacy of the disease. No rule can ever be substituted for that inward sentiment originating and progressing in the physician, from the comparison of analogous cases, and from his habit of appreciating with exactness the effects of remedies. But clinical practice enables us to say that antiphlogistics and local bleeding, applied to the treatment of chronic irritations in the chest, in young irritable subjects, the strength being little impaired, have proved to be the most successful means of cure. We are to persevere in that treatment until the frequency of the pulse is diminished, as well as the dyspnœa, expectoration, pain and cough, thereby indicating that the irritation has begun to subside. This is the period at which revulsives are called for.

In chronic catarrhs and pneumonia, external heat is the most powerful irritative agent we possess. It should be carefully maintained by the patient inhabiting a warm place, wearing warm woollen clothes. Rest and absolute silence are necessary to prevent the exercise of the respiratory organs. Emollient fomentations or cataplasms applied to the chest, are also very serviceable; and such is the extent of the relief they afford, that they cannot be too long persevered in.

Chronic pleurisy requires the same treatment. Local bleedings are particularly efficacious in this disease. We ought to commence with making use of leeches, if the pain is intense, the fever high, and the dyspnœa considerable; but at a later period we are to give the preference to scarification and cupping, which draw less blood, but stimulate the skin more powerfully. A local debilitating method is also indicated here, as long as the irritation continues, and gives rise to important local and sympathetic phenomena.

It is, however, indispensable, in the cases under consideration, not to make too free a use of blood-letting and leeches, nor to debilitate the vital actions without urgent necessity, at the time when, disorganization having already taken place, a cure becomes impossible. The constitution of the patient, the age of the disease, the extent of the dead (*tanquam percussi femoris*) sound of the chest, the signs derived from the stethoscope, and above all, the alteration of nutrition, the yellow straw colour of the skin, sufficiently indicate that condition of the disease which baffles all the efforts of art. But the inferences drawn from those phenomena are not so positive as to preclude the utter posibility of cure; and several successful cases might be related, which had been given up as incurable. In all cases, therefore, where we may perceive the least shadow of hope, we are bound to commence a methodical treatment. If the fever is not high, the patient weak, and the symptoms of irritation have disappeared, revulsives are to be immediately had recourse to, combined with local emollient applications. But when the strength is not impaired, and the fever is intense, accompanied with pain, and troublesome, painful cough, then leeches are indicated. Should they cause the morbid phenomena to subside, whilst the vital actions remain the same, we may return to them and persevere in their employment. If, on the contrary, they weaken the vital actions without producing any sensible benefit, they are to be considered as injurious, and we must have recourse to other means.

It is more generally by a severe diet, or even an absolute abstinence, than by repeated bleedings, that we succeed in allaying the excitation of the pulse, the burning heat in the palms of the hands, and the profuse night sweats, in phthisical patients. Diet can never be too severe; it debilitates much less than the continuance of fever and perspiration; and, as will be seen hereafter, it is one of the most efficacious means we possess against all chronic inflammations.

It not unfrequently happens, that, after having afforded the most flattering hopes, and procured some relief, leeches, like all other means, cease to act favourably, and the inflammation which had diminished in violence and extent in the lapse of a few days, now remains stationary, notwithstanding their continued employment This fact, which I have often observed, is very remarkable; it may be accounted for, 1st, by supposing that the irritation, abandoning with facility the parts which it had last invaded, returns with all its might to those primitively affected; 2d, by the fact, that the means by which the irritation had been called to another place, have been insufficient, or have not been so long persevered in as to maintain it in those parts where it had been artificially drawn. The practitioner must then pursue his treatment with increased vigour, until he has succeeded in eradicating the last traces of irritation. With this view he is to combine revulsives with a continuance of blood-letting.

We also frequently observe in practice, that a chronic pneumonia or pleuritis, threatening the life of the patient, after being checked by antiphlogistics, and on the eve of being cured, will now remain stationary, without its being possible to eradicate it entirely. There are several patients who thus remain with their lungs in a state of hepatization, which affection has almost become altogether local. When these obstructions prove incurable, we must use every possible means of preventing their extension, as well as the recrudescence of the irritation seated in them, and the destruction of the affected tissues. We must here remark, that every return of the inflammation with a certain degree of violence, leaves behind it a sort of disorganization of greater extent, and approaching nearer to the cancerous or purulent form. In this case it becomes necessary to persevere in the use of local antiphlogistics, of revulsives, and of other means of a similar nature.

The whole of the treatment of chronic inflammations within the chest, is, for the most part, encompassed within the narrow circle of the principles above mentioned. Most of the remedies so much extolled by quackery and ignorance, against those affections, are composed of more or less irritating drugs, which cannot be noted here with propriety, and in the history of which much more is to be destroyed than preserved.

ART. IX. *Case of Poisoning by Sulphuric Acid.* *By* JAMES STEWART, M.D. of New-York.

ON the 3d of October 1828, I was sent for in haste to visit a child of T. M. of this city, aged about two years. I was informed that about fifteen minutes before my arrival at the house, he had swallowed some *strong undiluted* sulphuric acid, which had been procured for the purpose of cleaning brass. The cup containing the acid was accidentally left within reach of the child, who, mistaking the fluid for water, drank as was supposed, about the quantity of a table-spoonful.

I found him in great torture, throwing out his arms, writhing his body, and constantly changing his posture in vain endeavours to obtain some mitigation of his sufferings. He seized and drank cold water with avidity; but notwithstanding the great quantities he had taken since the accident, his eagerness to obtain it was not in the least diminished. His face, neck, and lips were much swollen; eyes protruded and expressive of great distress: his mouth open, and the tongue and interior of the mouth of a brilliant red, and appeared to be denuded of their covering; the extremities and surface of the body generally were cold. Vomiting was incessant. The matter ejected consisted principally of mucus in large quantities, of an acid taste, containing small flaky substances of a light brown colour and occasionally tinged with dark colored blood. As the vomiting increased the blood became more abundant, till at length considerable clots were discharged. The pulse was small and rapid; and the breathing quick and laborious, *accompanied with the peculiar sound observed in those labouring under croup.*

This sound I heard distinctly before I entered the apartment in which he was; and it induced me to inquire whether he had previously had any such symptom. I was informed that he had been in good health except a slight disorder of his bowels, and that he had been altogether free from any pulmonary affection, but that this symptom appeared immediately upon his swallowing the sulphuric acid. It was doubtless produced by an inflammation and thickening of the epiglottis and of the upper portion of the larynx. The passage of the acid over them sufficiently accounts for this condition of the parts.

Under circumstances such as these, the nearest remedy is the best. A piece of chalk being at hand, was pulverised and diffused through water, and instantly administered. This was given frequently; and every time, from the constant vomiting, almost immediately returned.

The mucus vomited at this period was largely filled with air, and came from his mouth like bladders, proving beyond a doubt that the chalk had been decomposed by the acid.

When there was no longer any evidence of acidity remaining in the matter vomited, a blister was put over the stomach, and a warm bath and large injections were directed. Magnesia having been procured, was now substituted for the chalk, with directions to give it in as large quantities and as often as possible.

I then left him, but returned in about an hour. He was a little easier, and his skin warmer, the bath having in a measure restored the circulation to its balance. The vomiting was not so incessant nor so violent as it had been; he had, however, discharged several large clots of blood since my absence.—The magnesia and injections were directed to be continued until copious evacuations should be procured.

In the evening I again saw him in company with Dr. F. T. Ferris, who was requested to visit him in consultation. We found him worse than I had left him in the morning; his respiration was much more hurried and laborious, and seemed now to threaten suffocation if not relieved. The pulse, from its frequency, and from the extreme restlessness of the child, could not be accurately counted. The bowels had been but slightly moved.

Leeches were now applied to the upper part of the larynx, which was followed by almost immediate relief of the breathing. Bleeding was encouraged from the orifices by the application of warmth and moisture, and the medicine continued as before.

At our next visit on the succeeding morning we found him decidedly improved. The leech bites had bled considerably, and the magnesia and injections had procured large evacuations. Respiration being still painful and difficult, with other evidences of inflammation in the larynx and œsophagus, more leeches were applied to the upper part of the throat.—A solution of gum acacia was also directed to be liberally given.

The strictest antiphlogistic treatment was pursued for a few days. Under this course, together with a free use of mucilages, he gradually recovered, and is now in perfect health.

REVIEW.

Art. I. *Memoirs of the American Academy of Arts and Sciences.* Boston, Four Vols. 4to. Vol. I. to the end of the year 1783; printed in 1785. Vol II. Part 1, 1793; Part 2, 1804. Vol. III. 1809. Vol. IV. 1818.

Having understood from several of our readers, that the plan commenced in a previous volume, of analyzing the medical papers contained in the transactions of our scientific societies, was considered acceptable as well as useful, we proceed in the investigation. We propose noticing at this time the "Memoirs of the American Academy of Arts and Sciences." A third and concluding review will comprise an account of essays and observations scattered through the remaining works of the same description.

The Academy was incorporated on the 4th of May, 1780. We are not aware that it has issued any publications subsequent to those mentioned above.

The medical papers may be arranged under the heads of the—Theory and Practice of Physic, Surgery, Chemistry and Materia Medica, and Miscellaneous.

The most important paper in the first division is the following—

1. *An Account of the dissection of three persons who died of the Malignant Epidemic that prevailed in Boston in the summer of* 1798. By Isaac Rand and John Warren, M.D. Vol. II. Part 2. p. 131.

The first case was that of a man who died on the sixth day of his illness; and as no application had been made to a physician till the first stage of the disease had expired, the "state of the organs may be considered in a great measure as the natural effects of the disease undisturbed by art."

The lungs were much diseased. They contained an uncommon quantity of dark blood in their vessels, rendering them more dense and less compressible than usual. The posterior part of both lobes was extremely livid, and in the cavities of the thorax was contained extravasated blood, firmly coagulated, amounting probably to eight or ten ounces.

The pericardium contained as much as two or three ounces of blood. The heart was of its usual size, but the coronary veins were so distended with blood, as to exhibit the appearance of a most successful injection.

In the cavity of the abdomen, the part most conspicuously morbid was the liver. It was much inflamed on both its surfaces, and its substance much indurated. The gall bladder was greatly contracted, and contained not more than a quarter of an ounce of a thick, glutinous, and inspissated substance resembling pitch. None, however, of the neighbouring parts were in the least tinged with it. On cutting into the ductus communis, no bile issued from the aperture, and the hepatic duct had also evidently for some time ceased to transmit its fluid from the liver. The stomach had every mark of high inflammation, as also the intestines. The veins around the pylorus were enormously distended. The spleen was turgid, but in other respects natural. The peritoneum on the under side of the diaphragm, and the pleura on the upper, bore the marks of inflammation, but no other parts of those membranes appeared to have been diseased.

The omentum was thickened and its blood vessels turgid. No appearances of suppuration were present in any of the viscera, nor was there the least mark of putrefaction in any part of the body.

In this patient the intestinal discharges had uniformly been of the colour and consistence of water gruel, except a few evacuations resembling the matter of black vomit, with which symptom he had been seized on the fourth day of his disease.

The second case was that of a patient who died on the 12th day, but who had a remission of the disease. On the 6th day, however, he was seized with delirium, which continued until his death.

The brain was greatly diseased; its blood vessels much distended, and serum effused to the amount of two or three ounces between the dura and pia mater. Indeed these membranes were in some parts united by a band of coagulable lymph. The lungs adhered to the pleura on both sides. The right lobe was inflamed and indurated, while the left was in a state of suppuration. The heart was natural; the liver was highly inflamed, and the gall bladder full of bile and its ducts pervious.

The stomach was nearly in its natural state, but on the inside the surface of the villous coat was besmeared with a matter, which seemed to be of the same nature with the black vomit, though nothing of that kind had been ejected in the course of the disease.

The duodenum, and indeed the whole extent of the small intestines, were much inflamed. The bladder was greatly contracted, and its inner coat appeared to have been in a high state of inflammation, the vessels having been distended to such a degree, as to have suffered a rupture, and effused a quantity of blood into the cavity of that organ.

Of this patient it is remarked, that a pulmonic affection had previously existed, which would probably have caused an early death had not the acute disease supervened.

In the third case, death occurred on the fourth day. The lungs were inflamed and extremely gorged with blood. The liver was also inflamed, especially on its concave side and posterior part. Its substance was dense—"the gall bladder was completely obliterated, its coats having coalesced with the contiguous parts, so as to form with them one confused membranous substance." The stomach precisely resembled that of the second case, being smeared with the matter of black vomit. The colon was much inflamed in some parts.

In both the cases, where the gall bladder was diseased and ceased to perform its functions, the body became yellow before death; in the remaining one where the bile was found in due quantity, this circumstance did not occur.

Drs. Rand and Warren infer from the above dissections, that the indications of cure should be directed to a course which would allay inflammation in general, and at the same time open the excretory ducts of the liver. They state their confidence, that after proper evacuations, the use of *calomel* will be found to answer these important purposes. It had been used at the time of communicating this paper with fifteen patients, all of whom, except one, had recovered or past the dangerous period. It was given in small dozes of one, two, or three grains, every hour or two, so as to produce an early salivation. In this way from one hundred to one hundred and thirty grains had been administered in the course of three or four days, commencing its use immediately "after the first copious evacuations by bleeding and purging, and in every instance as the salivation came on the disease abated."

The coincidence of their practice with that of Dr. Rush is mentioned, but it is added, that the use of calomel is more explicitly and highly recommended by James Clark, M. D. in his Treatise on the Yellow Fever, as it appeared in Dominica in the years 1790, 94, 95, and 96.

2. *Remarks on the effects of Stagnant Air.* By Ebenezar Beardsley, Surgeon of the 22nd Regiment of the American Army in the Campaign of 1776. Vol. I. p. 542.

This paper contains a striking instance of the mode in which endemic dysentery is frequently generated.

In the beginning of April 1776, the American Army under the command of General Washington, marched from Boston to New-York, and arrived there about the middle of the month. The sick and invalids having been left behind, the whole army were in perfect health. They took up quarters in the barracks and houses of the citizens, till about the first of May, when they all went into tents, except the 22nd regiment, who, for want of tents, continued their quarters in *Smith-street*. This regiment continued very healthy until about the middle of May, when upwards of one hundred men were taken down with the dysentery in the space of one week. On inquiry, not a single case of this disease was found to exist in the remainder of the army, nor indeed among the citizens. "Those who lived in the same street, (says Dr, B.) and many of them in the same houses with us, were entirely free from this, or indeed any other disease." What added to the difficulty was, that some whole companies of the same regiment had nothing of it. This led our author to a more particular investigation into the situation and circumstances of the sick, all of whom he found lived either in low under-ground rooms, or else in garrets, so situated as not to admit of a free circulation of air. The rooms were also small.

Dr. Beardsley was induced from these circumstances to conclude, that the disease arose from the confined air, loaded with effluvia from the bodies of those who inhabited it. And acting on this opinion, he advised a removal to more airy and spacious apartments. The consequences were highly salutary. All except one or two cases recovered in a short time, and no new cases supervened.

Dr. B. applied with advantage the knowledge of this fact in the treatment of the autumnal diseases of the same year. "Even however, in large and well ventilated rooms, I frequently observed, that *cæteris paribus*, the sick who lay in and near the corners of the rooms were handled much more severely than those who lay in the middle of them."

3. *An account of an uncommon case of Emphysema, and of an external abscess whose contents were discharged by coughing.* By Edward Augustus Holyoke, M.D. F. A. A. Vol. II. Part I. p. 186.

This paper is from the pen of the venerable patriarch of American medicine, who has lately completed his hundredth year.

On the 15th of July 1783, he was desired by a medical gentleman to visit an infant of about twelve months old, which had been severely attacked with peripneumony for ten days; and in whom an uncommon tumour had just made its appearance. On viewing the patient, Dr. H. found an extensive, soft, and flatulent swelling, crackling under the fingers when pressed upon. This showed itself on the preceding evening, during a violent fit of coughing, on one side of the neck, near the right *mastoid muscle*. At ten o'clock the next morning, it had spread across the neck, and up by the left ear, under the scalp, so as to cover the whole extent of the *crotaphite* muscle on that side. On the left side it extended no farther up than the ear, while downwards it spread on the breasts, and to each axilla. It was evidently increasing, especially upon coughing. The pulse was frequent, the skin hot, respiration deep, frequent, and very laborious, and the cough violent. On the succeeding days, the swelling gradually extended over the head and down the breast and back, until the 18th, (the day of its death) when the whole trunk was puffed up, except a small area around the navel. The face however, and the upper and lower limbs were every where free from swelling.

No persuasions were found effectual to obtain an inspection of the body. Dr. Holyoke suggests the possibility of their having a been a rupture of the membranes of the *aspera arteria* somewhere between its cartilages, and thus giving passage to the air from the lungs into the adjacent cellular membrane at every expiration.

He thinks it probable, however, that the following case may throw some light on the former. A man aged fifty-three years, with all the symptoms of confirmed consumption, had a large tumour formed upon the upper part of the thorax on the left side, and extending from the shoulder, along the lower edge of the clavicle to the sternum, about the breadth of a man's hand. Having all the appearances of a large abscess, it was treated as such, and suppuration seemed to be advancing, but on removing the dressings one day, the tumour appeared less prominent and flabby to the touch, while the pain and inflammation had abated. The skin was unbroken. A whizzing noise was also heard by the patient in the tumour, and which, indeed, was manifest to the ear of the observer, if placed near it. At this time, the cough was urgent and the expectoration copious.

From this period, the tumour and inflammation subsided, the noise in breathing gradually lessened, and by the aid of pectorals and the bark, the hectic and cough disappeared.— His strength returned slowly, and at the period of this communication, he was in tolerable health.

In this instance, it is supposed that the abscess succeeding the pleuritic inflammation, burst inwardly, and that some of the air from the lungs passed at every expiration into this cavity, but could not diffuse itself in the cellular membrane, and produce general emphysema, on account of the inflammation surrounding the abscess forming a barrier impenetrable to it. The passing and repassing of the air will explain the noise complained of.

4. *Animadversions on the dangerous practice of sleeping on the damp ground and of exposure to the night air, particularly where the animal powers are diminished, illustrated on philosophical principles.* By A. Fothergill, M. D. F. R. S. &c. &c. Vol. III. p. 206.

The aim of this communication is to show that the evaporation from the surface of the earth, together with the diminution of temperature consequent on the change from day to night, must prove injurious to those who expose themselves. The inattention manifested by the young of both sexes, to accommodate their dress to the rapid transitions in our climate is severely censured, and its evident influence in the production of disease is pointed out.

SURGERY.

1. *Case of a remarkably large Tumour, found in the cavity of the Abdomen.* By Joshua Fisher, F. A. A. & M. S. Vol. I. page 537.
2. *A History of a large Tumour in the Region of the Abdomen, containing hair.* Ry John Warren, Esq. F. A. A. & M. S. and Professor of Anatomy and Surgery in the University of Cambridge. Vol. I. p. 551.

The subject of the first case was a female who had enjoyed good health, until the period of the cessation of the catamenia. She had been married from early life, but never had a child. Soon after the menses ceased she observed an unusual fulness of the abdomen, which gradually increased without any disagreeable symptoms, till she was near sixty years of age, about two years before her death. She then complained of pain in the left hypochondriac region, which became sensibly tumefied, and the abdomen was very large and tense. Inflammation was present, when Dr. Fisher first saw her, apparently forward of the rectum, and a bloody pus was finally discharged by the natural passages. During the presence of the severe symptoms, the urine was scanty and discharged with pain.

Cooling and anodyne remedies relieved her for about two months, and left nothing but the sense of distention and compression. At the end of that period, the symptoms returned with great violence: purulent matter, with blood and fæces were discharged, and she died on the fourteenth day of the attack. In her last struggles, which were very violent, she discharged, (probably per vaginam) a large quantity of dark water, resembling high coloured urine. This considerably reduced the bulk of the abdomen.

On dissection, a preternatural substance, adhering to the adjacent parts, was found occupying the abdomen and the upper part of the pelvis. Its nature was scirrhous, and it appeared to have originated in both the ovaria. Its weight was upwards of ten pounds and a quarter. The bladder was compressed by it, and the ureters passed through it to a considerable extent. The fundus uteri adhered to the basis of the scirrhus. The fallopian tubes were diseased.

The back of the tumour was attached to the aorta vena cava, &c. while to the rectum, which was protruded to the right side of the spine, it adhered for the space of seven or eight inches. Circumstances did not permit a further examination, but it was probable that the water must have been contained in a sac on the left side.

The subject of Dr. Warren's case, was a negro woman aged thirty two years, who also complained of pain on the left side of the abdomen and swelling, after the birth of her third child. This gradually increased after two successive labours, and since the birth of her last child, now about twelve years of age, had been almost constantly painful. Discutient remedies had no effect, and a tendency to suppuration became evident. This was encouraged, and a fluctuation was soon perceptible. It was determined to open the tumour, which was done with an extensive incision. A pint of watery matter issued from it, and afterwards about the same quantity of pus.

On examining the cavity, a substance of the consistency of soft soap was discovered in it; a portion of this was removed at several successive dressings, and on investigation it was found to contain a large quantity of short hair or wool, about three quarters of an inch long, uniformly mixed with it. No other substance could be found in the cavity, by the hand passed round it.

The patient gradually recovered by the aid of tonics, and generous diet, so as to enjoy good health. The catamenia remained and continued regular, but no signs of pregnancy had subsequently been present.

Dr. Warren inclines to the opinion, that the ovarium was in this substance the diseased part.

3. *A remarkable case of Gun-shot wound.* Communicated in a letter from Barnabas Binney, Hospital Physician and Surgeon in the American Army, in 1772, to the Hon. Benjamin Lincoln, Esq. F. A. A. Vol. I. p. 544.

In April 1782, David Beveridge aged nineteen years, a seaman on board the sloop of War *General Monk*, was, during her engagement with the *Hyder Ally*, shot with a musket ball in the abdomen. The ball entered about two inches above his left groin, and within an inch of the anterior edge of the left ilium; passing out two inches on the right of the spine, between the two inferior true ribs and just touching the cartilage of the inferior angle of the right scapula. When brought to the hospital, he was much sunk,—bled profusely,—hiccup was constantly present, and the fæces passed freely out of the wound. Believing his case desperate, a little wine, with a few drops of laudanum was administered, and this was continued with benefit for several days. He took no sustenance except wine whey, and had no discharge per anum, but passed his fæces through the wound. Six days after the injury, an enema was administered, part of which passed by the wound, and the remainder returned without any fæces. The wound gradually closed and the symptoms improved. On the eleventh day, an enema gently administered, gave him for the first time a natural stool. From this time, he had no further discharge by the wound, but gradually recovered; his wounds suppurated and healed kindly, and he was discharged on the twenty-second day.

Mr. Binney remarks that this case was one in which the officiousness of the surgeon might have done great injury. Any meddling with the wound might have removed the orifice in the intestine from the orifice through the abdomen, and a fatal discharge of fæces into the latter would thus probably have resulted.

4 *Account of a Locked Jaw.* By Aaron Dexter, M.D. F. A. A. Vol. II. part I. p. 191.

This is the case of a medical gentleman, in whom the disease supervened in consequence of treading on a nail. It entered the ball of the left foot, directly over the tendon leading to the second toe. Tetanic symptoms supervened on the fourth day. At his own request the cold bath was several times applied, and at first with great apparent benefit, but on the fifth application, it caused tremor and great anxiety, which were succeeded by more violent spasms. Irritants applied to the injured part had no effect.

The warm bath was now proposed and used, with a little relief, as copious perspiration ensued, but the return of the spasms destroyed any reliance upon it. Electricity, mercurial frictions, enemata with laudanum, were in turn used with temporary advantage, but the spasms at last affected the diaphragm and lungs, and on the eighth day after the attack, he expired in a convulsion. His intellect remained perfect during the disease, and he counselled with the attending physicians as to the means to be used; but he appears from the first moment of the attack, to have despaired of his recovery.

The injured part was examined. The nail had not entered the tendon, but passed by the side of it to the periosteum of the bone, which it had not affected. Under the tendon was a small cavity, discoloured throughout, with evident marks of previous inflammation.

5. *On the use of Oil of Tobacco, in the cure of Cancers.* In a letter from Rev. Tephaniah Willis of Kingston, to Rev. Joseph Willard, D. D. LL. D. Vol. II. part II. p. 137.

An individual descended from a family remarkably subject to cancers, was seized with one on the outer corner of his left eye. It was extirpated with success. About five years after, a similar affection attacked the right eye, which extended to such a degree, that the surgeon applied to, refused to operate, lest it might hasten his dissolution.

Apparently on his own suggestion, he began applying the oil exuding from his tobacco pipe to the diseased part. A few applications improved its appearance, and at the end of about two months, the cancer was healed.

CHEMISTRY AND MATERIA MEDICA.

1. *Experiments on the waters of Boston.* By J. Feron, Surgeon-Major of his Most Christian Majesty's Squadron, under M. De Ternay's command in North America, and of His Majesty's Marine Hospitals at Boston, and in Rhode Island, F. M. S. Vol. I. p. 556.
2. *Second Essai sur des Eaux de Boston.* Par M. Feron. Vol. II. part 1. p. 170.
3. *An account of a number of Medicinal Springs at Saratoga, in the State of New-York.* By Dr. Samuel Tenney. Vol. II. part 1. p. 43.

The communication of Dr. Tenney is dated in 1783. He states, that the Saratoga Springs were unknown (except to the Mohawks, in whose country they are found) until about thirteen years previous, at which time they were discovered by some surveyors.

Dr. T. proceeds to give a description of them, and mentions several experiments performed by him on the waters. He determines that lime, iron, and a large quantity of fixed air are present; more indeed of the latter than is to be found in the springs of Europe.

Their medicinal qualities are highly estimated. Many cases of rheumatism, scurvy, cutaneous affections, hepatitis and jaundice, and even in one instance pulmonic disease, are said by Dr. T. to have been cured through their use.

This paper we believe is the oldest in point of date, on the nature of these remarkable springs. It well deserves an attentive perusal, and particularly by those who may hereafter treat of their chemical and medicinal qualities. *Suum cuique.*

4. *An account of some of the vegetable productions, naturally growing in this part of America, botanically arranged.* By the Rev. Manasseh Cutler, F. A. A. & M. S. and Member of the Philosophical Society of Philadelphia. Vol. I. p. 396.

This is one of the earliest papers upon the botanical productions of the United States, and has been much quoted by subsequent writers. The plants are arranged according to the Linnean method, and short descriptions are added. What makes this essay particularly interesting to the physician, are the notices of the medicinal virtues of the plants enumerated. We forbear going into detail, as most of the facts mentioned by Dr. Cutler, have been copied into recent works on American Medical Botany.

MISCELLANEOUS PAPERS.

1. *A Bill of Mortality for the town of Salem, for the years* 1782 & 1783. By Edward A. Holyoke, M. D. &c. Vol. I. p. 546.
2. *Observations on the Longevity of the Inhabitants of Ipswich and Hingham, and proposals for ascertaining the value of estates held for life, and the reversion of them.* In a letter from the Rev. Edward Wigglesworth, F. A. A. and Hollisian Professor of Divinity in the University of Cambridge, to the Hon. James Bowdoin. Pres. A. A. Vol. I. p. 565.
3. *A Table showing the probability of the duration, the decrement and the expectation of life in the States of Massachusetts and New-Hampshire, formed from sixty two bills of Mortality, on the files of the American Academy of Arts and Sciences, in the year* 1789. By Ed. Wigglesworth, D. D. &c. Vol. II. part 1, p. 131.

4. *On Meteorological Observations and Bills of Mortality.* In a letter from Ed. A Holyoke, M. D. to the late E. Wigglesworth, D. D. Vol. II. part 2. p. 58.
5. *Synopsis of several Bills of Mortality.* By Rev Jos. McKean, A. A. S. President of Bowdoin College. Vol. II. part 2. p. 58.

Salem is a seaport town, about fifteen miles north-east from Boston. The ground on which it is built, is flat and low, being scarcely in any part more than twenty or twenty four feet above the level of the sea at high water. The soil is in general light, dry, and sandy, and quite free from marshes or collections of stagnant water. Dr. Holyoke adds, that the inhabitants are not subject to any endemic diseases.

The number of inhabitants are estimated at about nine thousand.

	Births.	*Deaths.*	*Marriages.*
1782	317	175	70
1783	385	189	84

In 1783 the measles were epidemic, and 34 died of it and its consequences. The proportion of deaths in each month, the ages at which death took place, and the respective diseases present nothing materially different from the tables of our larger cities. There were 35 deaths from consumption during the two years.

Dr. Wigglesworth received from the Rev. Mr. Cutler of Ipswich, a bill of the births and deaths in his parish, from September 11, 1771, to September 11, 1781. During that period, there had been 331 births, of which 60 died before they completed their fifth year. The deaths were 164, and of these 21 survived 80 years complete.

He also obtained a copy of the Rev. Mr. Gay's Bill of the baptisms, burials, and marriages in the first parish of Hingham, from 1726 to 1779 inclusive. Births, 2247; deaths, 1113; marriages 521. Of the deaths, 186 died in the first year and 403 under five years complete. During the 54 years, 84 survived to upwards of 80 years. The great superiority of these over the Breslaw results, as to the probability of life, is pointed out by Dr. W.

The nature of the third paper is stated in its title. Returns were received at the academy from a number of towns on the sea coast, as well as in the interior of the state, and some of them were for a long of years. The births were annually double of the deaths, and the whole number of these last on the bills was 4893, at the following ages :—

Under 5 years of age		1942
Between	5 and 10	236
	10 and 15	136
	15 and 25	425
	25 and 35	382
	35 and 45	349
	45 and 55	270
	55 and 65	270
	65 and 75	372
	75 and 80	185
	80 and 85	171
	85 and 90	103
	90 and 95	36
	95 and 100	16
		4893

Having estimated from the above data, that the population of Massachusetts amounted at this time to 176,033 inhabitants, Dr. W. observes, that the annual excess of 4893 births above the deaths, on that stock, determines the period of duplication to be twenty-five years and three-tenths of a year."

President McKean's Synopsis is also taken from the bills of upwards of forty parishes and towns, for various periods of time, but we are unable to state whether they are either in whole or in part distinct from those examined by Dr. Wigglesworth. The whole number of deaths on the bills is 6576, at the following ages, of which 828 died during the first year :—

Under 5 years of age		2500
Between	5 and 10	337
	10 and 20	397
	20 and 30	629
	30 and 40	457
	40 and 50	401
	50 and 60	324
	60 and 70	433
	70 and 80	574
	80 and 90	429
	90 and 100	92
	Above 100	3
		6576

In five of these parishes, during the various periods of time reported, (none less than nine years and several upwards of twenty) the deaths had been 1563 and the births 3375.

Dr. McKean does not speak so favourably of the increase of population as his predecessor. In nine parishes, containing 13,852 inhabitants, their mean annual increase is stated to be 273, and their period of duplication thirty-five and a half years.

6. *An Account of the deleterious effects of Mephitic Air or Marsh Miasmata, experienced by three men, July* 27, 1797, *in a well, on the Boston Pier*. By Rev. John Lathrop, D.D. F.A.A.—Vol. II. Part 2. p. 81.
7. *Fatal effects of lightning, in a letter to Rev. Joseph Willard, President of the University of Cambridge, &c.* By Rev. John Lathrop, D.D. Vol. II. Part 2. p. 85.

In one of the cases related by Dr. Lathrop, of individuals killed by lightning, the hat was torn, and there was a laceration of the skin of the head, from which blood issued.—Marks of injury were also perceivable down the neck and breast to the feet. The clothes were torn open in several places.

Art. II. *Compendium of operative Midwifery; or, the manual and instrumental operations of preternatural labours, reduced to the greatest simplicity; preceded by an investigation of the mechanism of natural labour.* From the French of Julius Hatin, Doctor of the Medical Faculty of Paris, &c. By Richard Tuite, M. D. formerly President of the Royal Physical Society of Edinburgh, &c.

It must be acknowledged that midwifery as an *art*, in its most difficult parts, has not sufficiently attracted the attention of the mass of medical practitioners of this country. A degree of apathy in acquiring skill in the manual operations of midwifery certainly exists among us; and students of medicine, apparently not sufficiently aware of its necessity, are little disposed to take much pains to acquire it. Some portion of this apathy is probably attributable to the popular obstetrical works most in use among us; and more especially to that of Dr. Denman. The whole scope and tenor of this author's work is to insist upon the necessity of leaving almost every case of labour to the unassisted efforts of nature; and as if the process of parturition were an exception to that liability to disease and disturbance to which every other function of the body is prone, he allows of too little interference in cases which absolutely require the assistance of art. This timid mode of practice which originated with Dr. William Hunter, and under his great authority became firmly established in England, was probably brought about by the opposite extreme of boldness and rashness in the use of instruments which characterised the practice of some of the more popular obstetric practitioners who preceded him. That the discovery of the powers of the forceps and lever led to their abuse, by an indiscriminate employment of these powerful agents, in cases not requiring them, cannot be doubted; but that Dr. Hunter and his disciples ran into the opposite extreme, in proscribing them, is as certainly true.

We would not, however, be understood to mean, that obstetric instruments are not sufficiently employed in this country. Although, probably, here as elsewhere, many women and children are lost who might have been saved by their timely application; yet it is equally true that they are frequently employed unnecessarily; and their more extensive use is by no means desirable. It is the little pains bestowed in acquiring the necessary practical skill for obstetric operations we complain. And do we complain unjustly? How many students of medicine, previously to commencing practice, have even *once* performed upon the machine, *all* the operations of midwifery? And how many for the first time upon the living female, attempt the use of the forceps or lever? The use of these instruments is always painful, frequently dangerous to both mother and child; and is any man then justifiable in employing them without having first acquired the requisite skill in their use upon the machine?

These remarks have been suggested by the title of the work which precedes this article; a work which purports to teach us the best methods of affording manual and instrumental assistance in cases requiring it. The observations of the translator in his preface are so pertinent that we cannot but extract them.

"Principles, after all, are but conclusions drawn from many individual facts; and though the details of a science may be said to be involved or wrapped up in its principles, yet he who has but learned its principles is no wiser than the man who, knowing the conclusion of a syllogism, is ignorant of the data on which it is founded—of the premises from which it is drawn.

"If natural labour be the foundaiton of the science, it is also the great prototype of the art—the great model which the obstetrical operator must ever keep steadily in view when employed in his operations; for, in obstetrics, success will not always result even from the judicious application of the precept, unless we also study to imitate nature in the manner in which it is to be executed; thus constituting midwifery not only a scientific, but also an imitative art.

"Art is the application of science to practice—its precepts being so many corollaries deduced from the principles of science. Though science may be acquired by attentive reading and reflection, art can only be attained by exercise and practice. Reading, however extensive, has never formed an artist, nor will it ever create an operator. It is execution, frequent and repeated exercise, which can alone give a proficiency in art, insure skill, or constitute that habit which is indispensable to success.

"In the study of midwifery, 'to read too much is sloth;' because its principles are few and easily attained, whereas their application is vast and varied. How mistaken, then, is the idea, how fatal the error, to imbue the mind of the young accoucheur with the facts, principles, and even precepts of midwifery, and to leave him with his hand unskilled to seek in an emergency, at the bedside of labour, in the moment of danger, an opportunity of fulfilling those precepts, of performing those operations, the success of which must essentially depend on his dexterity. It is hard to do that well which we do for the first time, and presumptuous is the idea that would promise success before the attempt has been made. Of what use, let me now ask, will it be to know that in such a position the fœtus is to be turned and delivered by the feet—here the forceps are to be applied, there the lever—if in delivering he fractures the limbs of the child, dislocates its trunk, and leaves it all mangled and mutilated; or if he lacerates the parts of the mother, and leaves them in that state of inflammation to which at this period they are so prone, and which a few hours may bring to its crisis?

"Skill is no more natural to man than knowledge; they are both the result of the successful application of his faculties—the reward of industry. He who would doubt it, need but direct his attention to the frequent, incessant, and laboured efforts to which the child is doomed before it attains the use of its limbs; but this he may attribute to the want of strength; let him, then, figure to himself the lusty hand of a mechanic passing along the pliant keys of a harpsichord, and then tell me whether the hand is necessarily obedient to the dictates of the understanding, or in accordance with the strongest influence of the will. The truth is, that the hand requires cultivation as much as the understanding, and with cultivation it has produced feats more astonishing to man himself than ever have been produced by the mightiest efforts of the intellect. The student need, therefore, not expect success or any satisfaction to result from his practice in the obstetric art, unless he accustom himself to repeat those operations on the machine which he may be called upon to perform at the bedside of labour."

These introductory remarks of Dr. Tuite, we would recommend to the attentive perusal of every student; and if he will follow the advice they contain, he cannot but obtain the reward always incident to great skill in every branch of our profession. As a companion to the machine, this little work is unexceptionable, and we rejoice therefore to see it in its English dress. With such distinct directions as it affords, all the requisite skill in the performance of obstetrical operations may be obtained with very moderate labour. As a translation, it ranks with most of the English versions of French medical works which we have seen. They all contain too many Gallicisms, and prove the translator to have paid more attention to the French language than his own. The only serious error of this kind we have noticed in this translation, is at page 56, where the French word "*crochet*," is used instead of the English words "*blunt-hook*," and throughout the work it is employed in the same manner. This error might be material if the "*crochet*" were confounded with the instrument called the "*crotchet*," a mistake readily made by those unacquainted with the French language.

QUARTERLY HISTORY
OF
IMPROVEMENTS IN MEDICINE AND SURGERY.

Foreign.

ANATOMY AND PHYSIOLOGY.

Single Vision and the Union of the Optic Nerves.—An interesting paper on this subject, by W. Twining, Esq. is republished in the July number of Dr. Brewster's Journal, from the Transactions of the Medical and Physical Society of Calcutta. From this paper we make the following extracts.

"The phenomena of single vision with two eyes, each of which represents a picture of the object we look at, has received various explanations, and has been the subject of much inquiry. Dr. Wollaston has lately promulgated an opinion on this subject, which I propose to bring before the society, for the purpose of noticing some observations respecting the structure of the optic nerves and thalami in a healthy state, as well as investigations of the changes produced by disease, which preclude us from admitting Dr. Wollaston's premises, or adopting his conclusions.

"Dr. Wollaston believes, that the faculty of single vision with two eyes may be attributed to a semi-decussation of the optic nerves; namely, that the contiguous half of each optic nerve, on reaching the *sella turcica,* and there uniting with its fellow, does cross and ultimately serve to furnish retina to the nasal side of the opposite eye; the retina of the temporal side of each eye being formed by the expansion of half of the corresponding nerve, while the retina on the nasal side of each eye is supplied by the expansion of half of the nerve from the opposite side. This semi-decussation and distribution of the nerves, though not within the reach of anatomical demonstration, Dr. Wollaston considers established by induction, from the symptoms of disease in some instances which he relates.

"A case nearly similar to those published by Dr. Wollaston, came under my care about four years ago.—C. D. a lady about twenty years of age, and in perfect health, was thrown from her horse, while taking exercise in a riding-school. In falling, the left shoulder and left side of the head struck against the boarded wall. The shock occasioned a momentary privation of consciousness, but of such short duration, that it amounted only to the slightest degree of stunning; from which she soon recovered, and again rode for half an hour. About an hour after the fall her sight became impaired, so that half of objects on her right, (that is, the left side of persons walking towards her,) was not seen. On looking at a book, she read with difficulty, half of the page being dark; and she found that she could not comprehend what she read, from forgetting the first part of the sentence before she arrived at its conclusion. A dull heavy head-ache was felt, the pulse became slow and oppressed, countenance pale, and void of expression, pupils dilated, and vomiting came on.

"The slow and gradual accession of these symptoms, distinct from the first effects of concussion, and not immediately connected with alarm at the moment of the accident, was attributed to effusion slowly taking place from ruptured vessels, and appeared to indicate the necessity of active treatment. The patient was accordingly bled to lb j. ss. and a general system of depletion was adopted in its fullest extent; at the same time every kind of excitement was avoided, and no food but tea, and a very small quantity of bread, allowed for several days.

"In a few hours after the v. s. the whole of objects was perceived; but there was a confusion of sight, objects appearing *irregular, and their outlines* not well defined. This symptom, with dizziness and a dull head-ache, subsided gradually; and after several days continuance in the plan of treatment above stated, the patient recovered, and has never since experienced any similar affection of the sight. In this case no experiment was made to ascertain whether only half of objects would be seen, when one eye was closed.

"We sometimes find that injuries of the head, sympathetic affections of remote parts of the nervous system, and disorders of the stomach, as well as those disturbances of the nervous system dependent on distress of mind, intense thought, and severe application to business, produce suspension of the functions of some organs and disordered action of others.—It is difficult to assign a reason why affections of mind occasionally produce the same symptoms, as arose from concussion of the brain in the above instance; nor is it easy to ascertain how mental emotions sometimes suddedly cause those symptoms to cease.

"The function of vision does not unfrequently suffer from all these causes; but surely we have not legitimate reason to conclude, that when hemiopsia or half sight has been produced, the cause must be lesion of just half the optic nerve, or of the whole nerve on one side, between its origin and the union on the *sella turcica*. On the contrary, lesion, or disease of one nerve at the point just mentioned has not been attended with hemiopsia."

Our limits will not permit us to follow the author in his remarks upon the various attempts to show how single vision with two eyes is obtained, and also to explain the phenómena of hemiopsia, or half sight. We shall content ourselves with quoting the concluding paragraphs of the paper.

"The eyes are not the only organs of sense which being double, do communicate a single impression to the sensorium. We have a parallel instance in the sense of hearing. The fact is, that we have no proof that there is any more correspondence between the pictures in the eye, and the sensations produced by them in the brain, than there is resemblance between the sounds of any given words of a language and the sentiments excited thereby in the sensorium. Nor does it appear necessary towards unity of perception of any given object, that the impression on the organs of sense should be single. Brown has observed in his "Philosophy of the Human Mind," that the two words "he conquered," produced in the mind the same single idea or impression as the word "vicit."

"I think the aggregate of the foregoing paper will be admitted as sufficient proof that there is no decussation of the optic nerves on the *sella turcica* in man. If we wish to ascertain how single vision is accomplished with two eyes, we must seek other reasons for that phenomenon than those which have been assumed by Sir Isaac Newton and by Dr. Wollaston — The facts above stated appear to me so demonstrative on this subject, that I am satisfied those authors, with such evidence, would not have adopted the conclusions they have published."

On the predominance of the right arm over the left.—M. le Comte, in a memoir relative to the predominance of the right arm over the left, in the Journal de Physiologie Experimentale for January, 1828, commences with refuting the opinion of those who have attributed this predominance to habit. He then passes under review the different hypotheses of physiologists, who have hitherto looked for the cause of this phenomenon in the normal organization of man, and finds all that has been proposed inadequate. He at length comes to his own hypothesis. In his opinion, the differences between the right and left system has its source in the position which the human fœtus affects in the uterus during the last months of gestation. In by far the greater number of cases, the position is such that its left arm and shoulder, as well as the left side in general, are pressed against the bone of the pelvis. From this pressure there results a contraction of the blood-vessels—a sort of atrophy commencing in the whole left system. The weakness of that side, therefore, results from this congenital disposition. M. Comte, with a view of obtaining a verification of his theory, compared the cases in which the fœtus occurs in the position which he considers as calculated to determine the weakening of the left system, with those in which it assumes a contrary position; and he has found a number which expresses the proportion of right-handed and left-handed persons. Having been for several years a resident pupil at the Maison

Royal d'Accouchements, M. Comte occupied himself in observing the habits of the children which, at the moment of their birth, he had supposed would be left-handed, and he found his prognostications verified.—He proposes to make a further trial on the children in the Hospice de Orphelins, with respect to whom it would be possible to ascertain the peculiar circumstances that attended their birth. He concludes with considerations respecting the means of enabling children to use both sides freely. To insure this happy result, it is not enough to make children use both hands alike after they are two or three years old. To compensate the defective condition of the left system at the moment of birth, they must be forced to use it solely, leaving the right arm in a state of inactivity. The reverse of this is what generally takes place. Nurses, in fact, usually carry children on the right arm. In this position the child has the whole left side pressed against the breast of the nurse, which cannot but increase the disposition acquired at birth.—*Jameson's Edinburgh Philos. Jour.* Vol. V. p. 407.

Physiological Memoir on the Cerebro-Spinal Fluid. By M. Majendie. Read before the Royal Academy of Science, June 16, 1828; and condensed from the Journal de Physiologie.

Since the regard which the ancients entertained for the remains of the dead has given place to an ardent desire to become acquainted with the organization of animal bodies, anatomicel science has been carried to a high degree of perfection by the successive labours of eminent men. Anatomists, who still hope to find some part not observed before, some structure yet undescribed, are fain to proceed with their microscopes in hand. This circumstance alone is sufficient to shew the perfection at which the anatomy of the human body has arrived.

The investigations which I have long pursued with regard to the nervous system have led to my discovering a new element of our constitution: not one of those which requires minute search to be detected: on the contrary, the element of which I speak is so apparent, that it has only escaped heretofore from the belief that no part of the body, however minute, could have eluded the investigation of anatomists.

I have ascertained that there exists in the brain and spinal marrow a liquid, in the midst of which is immersed the brain, spinal marrow, and the origins of all the nerves. This liquid, which belongs to the most perfect health, and the quantity of which amounts to several ounces, is too obvious not to have been noticed, and even mentioned, by several authors; but then its presence was attributed either to disease or to changes which had occurred after death. You may conceive my satisfaction on ascertaining so important a fact. A host of conjectures presented themselves to my mind: was this liquid the *animal spirits* of ancient writers?—the *nervous fluid* of which certain physiologists still speak? Doubtless, had the discovery been made fifty years ago, we should have had some hypothesis founded upon it. But such is not now the progress of science; experience is preferred to the most ingenious systems; and some observations on nature and some experiments are all that this memoir will contain.

It was necessary to begin by naming the liquid; for a name is a great matter, even in anatomy. I called it the *cephalo-spinal* or *cephalo-rachidian*, because it is found both in the head and cavity of the spine. I next tried to determine the exact quantity of it; and I ascertained that, in an adult man, of middle stature, and in the enjoyment of all his faculties, there were about three ounces; and in women, under similar circumstances, the quantity is greater: it will be seen by and by that this is no advantage. In old persons the quantity of the liquid is still more considerable, and may extend even to six or seven ounces; but then the faculties both of body and mind are generally much impaired.

The situation occupied by the fluid is worthy of remark. It forms round the brain and spinal marrow a layer which varies in thickness at different points: at the neck it is four or five lines; at the loins it is more than an inch; in the brain generally one or two lines, but in certain structures and certain cases nearly an inch. Do not these facts militate strongly against a famous system, in which it is pretended to determine the most minute circumstances concerning the volume and conformation of the brain by the shape of the skull? If there exists, as cannot be doubted, a layer of fluid between the cranium and the brain, and if this layer may have several lines in thickness, how can we judge of the dimensions of the brain by those of the cranium? and how be sure that the elevations or depressions of the surface of the head correspond to those of the brain?

The study of the portion of the fluid which covers the brain led me to a singular and very unexpected fact with regard to the volume of this organ.

We look upon the dimensions of the brain as not subject to variation, because we think that it fills exactly the cavity of the cranium, and because we do not see the head become emaciated or increased in size with the other parts of the body; but nothing is less correct. I ascertained that the brain follows the other organs with regard to the change of its volume.

In all diseases of a certain duration, when the body wastes much, the brain undergoes a similar diminution, and the convalescent, who can scarcely walk, and who attributes his weakness to the almost entire disappearance of the muscles of his limbs, might with as much reason attribute his moral weakness to the diminution in the size of the brain. I have ascertained, besides, that in proportion as the wasted limbs regain their former dimensions, the brain also recovers that which it had lost. Thus it appears that one of the uses of the cephalo-spinal liquid is to replace the brain as often as it diminishes in actual volume. It fulfils the same office in instances of partial diminution, as I was able to determine in individuals who, during many years of their life, had had the arm or leg contracted and immovable. In this case a fifth or fourth part of one cerebral lobe had disappeared; a large depression was found on the surface of the organ, and this was occupied by the cerebro-spinal liquid, so that the cranium was always full.

After having made out the physical uses of the liquid, I wished to ascertain whether it exercised any influence on life. This could only be done by experiment on the lower animals, which have the cerebro-spinal liquid, though in much smaller proportion than man. My first trial was upon a fierce old fox, who was not at all anxious to contribute to the advancement of science. By means of a little puncture made in the neck, he lost all the cerebro-spinal liquid in a few minutes. The effect was very striking; this animal, which had been ferocious but a moment before, became calm all at once; he no longer attempted to bite, and indeed scarcely moved. Seeing him in this disposition, I made him be set at liberty; but he lay down on the spot, and did not stir till next morning; he then attempted to get up, and in the course of the day made several steps with some confidence. At the end of thrity-six hours he again attempted to bite, and tried to escape. I then made a fresh puncture in his neck, and from the result I was satisfied that the cerebro-spinal liquid had been completely renewed again.

These inquiries led me to examine, with more attention than I had previously done, a disease of very young infants, in which a pouch filled with water exists at the lower part of the spine, at the place where the natural liquid is in large quantity; and I discovered that what we regard as a morbid product is nothing more than the natural liquid, which has distended its envelopes, and formed a hernia externally. When this bag happens to burst, the liquid escapes, and death speedily follows: probably because, the aperture remaining open, the fluid cannot again collect, and protect the brain and spinal marrow by its presence. Thus it appears that in man, as in the lower animals, the contact of this liquid with the surface of the brain is of great importance to the perfection of the nervous functions, and even to life.

But is it merely as a fluid that this is of so much use? or are the functions at all dependent upon its chemical constitution? To determine this question I made an experiment, in which, after having exhausted the cerebro-spinal liquid of an animal, I supplied its place with an equal quantity of distilled water at the same temperature; and I found, with surprise, that the animal became extremely agitated; its movements were perverted; it appeared to have entirely lost its usual instincts and habits. All this phenomena ceased when I allowed the water to escape. To judge if the temperature had an effect on the nervous functions, after having allowed the liquid which I had previously extracted from the animal to become cold, I reintroduced it into the cavity which it had occupied. Immediately the animal was seized with general trembling, analogous to what succeeds intermittent fevers. It is, therefore, not impossible that this experiment may throw some light on the cause of the cold stage in fever.

I conclude, from the facts and experiments which I have detailed, and from many others already published, that the cephalo-spinal liquid influences the functions of the nervous system, first, by its contact with the surface of the brain and spinal marrow; secondly, by its chemical composition; and thirdly, by its temperature; and thus that this liquid must be ranked along with the blood, lymph, &c. from its utility in the animal economy.

But I had a much more important object than that which we have considered. I had to study the influence of this liquid upon the intellectual faculties of man. That I may be the better understood, it is necessary to say a few words on the formation of the brain. This is divided into two portions—one large, and occupying the upper part of the cranium, viz. the *brain* proper; the other small, and placed beneath, viz. the *cerebellum.*—The exterior of the brain presents a great number of rounded protuberances, varying in different individuals, and separated by furrows. Numerous cavities are formed in the centre of the cerebrum. It is there most probably that some of the mysteries of nervous actions and intellect are accomplished. Can it be believed that these cavities, rendered so important by the phenomena there produced, have been, and still are, denominated *ventricles*—little bellies! Is is not high time to discard this frivolous appellation from the language of anatomy? However this may be, the nomenclature of the parts contained within the cavities of the brain, offer this remarkable circumstance, that many of them have names indicative of hydraulic uses: thus we have the *aqueduct*, the *funnel*, the *valve*, and even the *bridge*.

Most of these names have descended to us from distant periods, and we are accustomed to look upon them as the remains of some ancient system which has crumbled beneath the weight of time. The old physicians believed that the ventricles of the brain were filled with water, which in certain cases escapes by the nose; a belief which passed to the vulgar, among whom we still meet with it. These ideas are looked upon as erroneous by modern anatomists, according to whom the ventricles of the brain, in its healthy condition, do not contain any water, but an invisible vapour, which they have represented as the immaterial spirit presiding over the acts of intelligence. Nevertheless, when we open the brain, we almost always find the ventricles filled with a limpid fluid; but the present doctrine regards this as the product of the disease causing death.

Having acquired the data which I have already mentioned, I have been led to think that the water which is so frequently found in the cerebral cavities might be the same which is found on the surface of the brain; from which it would follow that its presence in the ventricles was natural, as held by the ancients, and not a morbid product, as is at present supposed.

It will be perceived that, in order to confirm this idea, it was absolutely necessary that there should exist an opening by which a communication might be established between the exterior of the organ and its internal cavities; and yet no such opening was known. I did not, however despair; and after some researches, made at the termination of various diseases, I at last found an aperture, two or three lines in diameter, completely hid by a lobe of the cerebellum, and forming a true *entrance to the cavities of the brain*.

This fact once established, it became mechanically necessary that the cerebro-spinal liquid should enter into the cavities of the brain, and fill them; for they communicate with each other. I had no difficulty in verifying this inference in the bodies of persons destroyed by accidents, and which, in fact, showed me the liquid filling the cerebral cavities.

This discovery explained the hydraulic nomenclature of which I have spoken. I perceived that these pretended notions of ancient doctrines were simply the figurative but just designation of an assemblage of organs in full activity. In fact, the valvula Vieusseni of the cerebellum fulfils, to a certain extent, the office of a *valve;* the *aqueduct* has actually the functions which the name implies, as it transports the liquid from the fourth to the third ventricle; the infundibulum, or *funnel*, carries it to the pituitary gland; and lastly, the pons, or *bridge*, is really an arcade placed transversely in the direction which the fluid observes; it is situated not over, but under, the current which it traverses; and, to give an idea of it, I cannot do better than call to mind the tunnel which is now in progress under the Thames!

This, then, is a complete explanation of the hydraulic apparatus presented by the brain. Without being an exclusive admirer of ancient times, I must remark that, in this instance at least, our predecessors had observed with more accuracy than we have done. Modern anatomists, however, have this merit, that they respected the names, although they regarded them as false; and in this they were wise, as people sometimes are, without suspecting it.

The liquid which fills this cavity is not in repose. On the contrary, it undergoes constant agitation, by the effect of a kind of flux and reflux resulting from respiration. Thus, at the moment we inhale, the liquid flows out from the cerebral cavities, and passes into the spinal canal; while, on the other hand, at the moment we expire, the liquid re-enters those cavities, and flowing by the conduits above mentioned, particularly the aqueduct, which gives passage to the fluid, now in one direction, and now in the opposite.

The mechanical cause of this flux and reflux is very simple. It depends upon the alternating turgescence of the veins of the spine under the influence of respiration. This movement of the liquid is arrested, or much retarded, by compressing the abdomen. We may remark, that this is one of the effects of girdles, and serves to explain how their use becomes dangerous, or even insupportable, when the pressure is too great.

In studying the passage of the fluid by the aqueduct, I believe I have discovered the probable use of the pineal gland. I look upon it as a stopper destined to open and shut the aqueduct, over the anterior opening of which it is situated. Two large veins are placed and fixed upon the gland: these vary in size. Sometimes they swell greatly, and at others are nearly empty. It is inevitable, from the relative position of the parts, that the moment the veins swell they must press down the pineal gland, and this cannot yield nor descend, without shutting the entrance of the aqueduct to a greater or less extent. Now, as one of the constant effects of exertions, anger, and all violent passions, is to swell the veins of the head, and particularly those which press upon the pineal gland, it follows that, in these different conditions, the entrance of the fluid into the ventricles is intercepted, or at all events impeded. The use, then, (or, more correctly, one of the uses of the pineal gland, would appear to be that of regulating mechanically the flow of the cerebro-spinal liquid through the aqueduct.

What influence has this fluid on the intellectual faculties? With a view of ascertaining this, I have endeavoured to determine the quantity in the brains of sane persons, of maniacs, and idiots. Idiots have a considerable quantity; it occupies the surface of the brain, and there forms a thick layer; it distends the cerebral cavities, and displaces all the parts found there, particularly the pineal gland, which driven from its natural position, can no longer fulfil the functions which I attribute to it. The aqueduct likewise presents a considerable enlargement. In these cases we find 6 or 7 ounces of the cerebro-spinal fluid; and it is the same in the fatuity of elderly persons.

Maniacs also have a large quantity of liquid, but it does not accumulate at the surface of the brain; whatever be the nature of the insanity, the ventricles are always much distended.

The brains of persons gifted with reason up to the period of their death, generally contain less than an ounce of fluid in the ventricles; so that it is easy in this way to distinguish the brain of a madman, a fool, or a sane person. It would appear that the developement of the mental faculties is in the inverse ratio of the quantity of the cerebro-spinal liquid; and this, to a certain extent, is easily understood, as the volume of the fluid can only increase at the expense of the solid mass of the brain.

I may add, that it is not merely necessary that the liquid shall not be too abundant, but also that its movement be free. I lately found, in the brain of an old opera singer, who died idiotic at the Salpetriere, an obliteration of the opening by which the liquid enters the ventricles; and as there was no other disorganization, I am inclined to think that this obliteration was the cause of the malady.

PATHOLOGY.

Case of Rupture of the Stomach produced by Vomiting; with Observations.

By J. N. Weeks, M.R.C.S. and House Surgeon at St. Bartholomew's Hospital.—G. Andover, æt. thirty-four, had been liable for about two years to paroxysms of pain in the stomach. The pain usually continued for several hours, and generally went off with vomiting; and it returned at uncertain intervals, frequently of many weeks. Between the attacks the patient enjoyed tolerably good health. About Christmas last, he vomited a large quantity of blood, which rendered him so feeble that he was confined to his bed for five weeks. Since that time his health has been much impaired, and the attacks of pain, followed by vomiting, have been more frequent.

On the evening of April 13th, he was brought to St. Bartholomew's Hospital, where I first saw him. He was then suffering great pain, extending from the epigastric region over the whole abdomen, and accompanied by nausea; there was neither tenderness nor tension of the abdomen; the pulse was frequent, tongue clean. He had shortly before his admission drunk some shrub and water, to which he in a great measure attributed these symptoms, and told me he had had a similar attack about a week ago, after indulging in spirituous liquors, and that it went off with vomiting.—On the following day, the pain had subsided; there had been no vomiting, but he complained of nausea; the abdomen was distended by flatus, and he had frequent eructations; the pulse was weak, tongue natural.

At eleven o'clock P. M. he had a sudden attack of most severe pain. I was called to him about an hour afterwards, and found him groaning with agony at the pit of the stomach; the abdominal muscles were hard and contracted; the belly was neither painful, nor tender on pressure; his pulse was small and feeble; he was extremely restless, and his countenance expressive of the greatest suffering. I instantly gave him sixty drops of tincture of opium; and, as he found no relief, they were repeated, but without benefit. He continued to suffer most acute pain for about two hours, when he was suddenly seized with violent vomiting. After this, the pain somewhat abated; there was no return of vomiting, but he sunk rapidly, and died at four o'clock in the morning.

Examination.—On opening the abdomen, the stomach was observed to be flaccid and empty, and its contents, which consisted of a large quantity of dark-brown fluid, were effused into the peritoneal cavity, through a ragged opening situated on its anterior surface, and near the œsophageal orifice. The rupture extended from below the lesser arch of the stomach to near its cardiac extremity, and was about four inches in length. The three membranes were not torn equally, the rupture of the peritoneal covering extending an inch farther than that of the muscular or mucous coat. On the posterior surface of the stomach was a laceration, measuring three inches in length; and there were two or three small ones, from an inch to an inch and a half in length, at its great arch. These lacerations extended only through the peritoneal coat of the stomach, the muscular and mucous tunics remaining perfectly whole. The mucous membrane of the stomach was lined with a great deal of dark-coloured secretion, beneath which the membrane itself was of a deep red colour throughout; its texture was softened and partially emphysematous. The stomach in other respects appeared healthy; the liver was pale and softened; the gall-bladder contained a calculus; the structure of the spleen was unusually soft. The other viscera was healthy.

The most remarkable feature in the preceding case is the extensive rupture of the stomach, with so little disease of its coats; and in this respect it forms a striking difference to those cases hitherto related. The stomach presented no thickening nor ulceration at the part which was ruptured: the disease was confined to its mucous tunic, and appeared to be recent inflammation and softening of its texture. It may also be remarked, that the symptoms in this case were not such as generally indicate the existence of organic disease; there were considerable intermissions of the symptoms, the patient had enjoyed tolerably good health, and there was no emaciation.

The only case I have met with of rupture of the coats of the stomach, produced by an act of vomiting, or rather attempting to vomit, is recorded by Lallemand, and is described in the 49th volume of the Dictionnaire des Sciences Médicales, art. *Rupture*.

The patient had laboured under difficult digestion for five or six months, and had been much relieved by observing a strict regimen. After indulging her appetite to a greater extent than usual, she was attacked with uneasy feelings in the stomach, accompanied by nausea and inclination to vomit. She made violent but ineffectual efforts to discharge the contents of the stomach, and, whilst suffering great agony, experienced intense pain, with a sense of tearing at the lower part of the belly: she uttered several screams, and fell down insensible. She sunk rapidly, and died in the night. On dissection, the cavity of the peritoneum was found full of half-digested food; the anterior and middle part of the stomach was torn obliquely from its small towards its great curvature, to the extent of five inches. The edges of the rupture were thin, irregular, and presented no marks of disease. The three coats of the stomach were not torn to an equal extent, nor exactly in the same direction: the rupture in the peritoneal was larger than the muscular coat, and the mucous membrane was the least extensively lacerated. A mass of scirrhus, an inch and a half in extent, surrounded the pylorus. The other parts of the stomach were perfectly healthy.—*Medico-Chirurg. Transactions*, Vol. XIV. Part 2.

SURGERY.

Case of Extirpation of the Uterus. By Dr. Blundell.—Mrs. A. B. æt. fifty, of gray eyes, tranquil disposition, broad in her make, and disposed to obesity, was seized with offensive discharge from the vagina, soon followed by eruptions of blood in large quantity; so that, according to her own report, frequent faintings were produced, and the blood occasionally sank through a bed about twice as thick as a sofa cushion, collecting on the floor; and day after day, for months together, with little intermission, one or two pints of blood were discharged.

Although Mrs. A. B., in her general conversation, is by no means prone to hyperbole, it seems evident that she must have greatly overrated the quantity of these daily floodings. Certain however it is, from her repeated and considerate declarations, that very large quantities of blood were lost during a period of many months; and though, with the exception of some small œdema of the legs, there were no signs of general dropsy, the paleness, coldness and weakness, and the frequent attacks of faintness, or complete delirium, showed pretty clearly that much vascular inanition had been produced. In other particulars, the patient's condition was not altogether discouraging; for the bowels were regular, and the appetite was occasionally good; and the appearance, though cachectic, and perfectly similar to that of other women perishing under malignant ulceration of the uterus, was not such as to indicate a constitution wholly unfit for surgical operation.

The woman having been under the care of three or four different practitioners before I saw her, I deemed it proper to examine immediately with great attention: when I found that the womb was moveable, and about as large as a goose's egg; that its mouth was broad, open, and of cartilaginous hardness; that it manifested the usual marks of malignant disorganisation, in which also about one-fourth of the contiguous vagina was involved; and further, that on the surface of the diseased mass was formed an ulcer, about as broad as a shilling. The adjacent structures appeared to be healthy enough; the bladder and rectum were sound; the inguinal glands were not enlarged, whence it was presumed that the lumbars were perhaps healthy; the ovaries could not be felt to exceed their ordinary bulk; and there evidently was no tangible enlargement of the liver, spleen, kidneys, or omentum, all of which were examined with the nicest care. The breathing was easy; the pulse, various in its frequency, ranged between 115 and 120 in the minute; and the patient, though certainly very much debilitated, had sufficient remains of strength to walk to my house, (the distance of a furlong,) though not without considerable difficulty.—To be short, it seemed clear at this time that the case was ulcerated carcinoma of the uterus, as it is called, and that extirpation was the only remaining remedy.

The bowels having been cleared, and the patient being resolved to submit to the operation, on the 19th of February, 1828, I determined to remove the diseased parts without further delay. For this purpose, having placed the woman in the obstetric position usual in this country, (on the left side, I mean,) close upon the edge of the bed, with the loins posteriorly, the shoulders advanced, the knees and bosom mutually approximated and the abdomen directed a little downwards towards the bed, I began the operation.

First Stage of the Operation.—I commenced by passing the index and second finger of the left hand to the line of union between the indurated and healthy portions of the vagina; the finger being converted into a cutting instrument, (varying with the exigencies of the operation,) by means of a moveable knife, which requires a word or two of description. The blade of this knife, not unlike that of a dissecting scalpel, was mounted upon a long slender shank, which, including its large handle, was about eleven inches in length; and with this stem the blade was united, so that its flat, or plane, formed with the stem an angle of fifteen or twenty degrees. The first and second fingers of the left hand then being in the back of the vagina, contiguous to the diseased mass, (as before observed,) by taking the stem-knife in my right hand, I could at pleasure lay the flat of the blade upon the front of these fingers, and urge the point of the instrument a little beyond the tip. The apex of the forefinger being in this manner converted into a cutting point, by little and little I gradually worked my way through the back of the vagina, toward the front of the rectum, so as to enter the recto-vaginal portion of the peritoneal cavity, frequently withdrawing the stem-scalpel, so as to place the point within the tip of the finger, and then making examination with great nicety, in order to ascertain whether the vagina was completely perforated, minute care being necessary in this part of the operation to avoid wounding the front of the intestine.

Second Stage of the Operation.—A small aperture having been formed in this manner in the back of the vagina, through this opening the first joint of the forefinger was passed, so as to enlarge it a little by dilatation and slight laceration, (safer than incision.) This done, and a cutting edge being communicated to the finger, by placing the plane of the blade in such a manner that its incisory edge lay slightly advanced beyond the side of the finger now lying in the aperture, after drawing the point of the instrument within the tip of the finger, which operated as a guard, I proceeded to make an incision through the vagina transversely,—that is, in a direction from hip to hip; for this purpose carrying the finger with its cutting edge, from the opening in the vagina already made, to the root of the broad ligament on the left side, so as to make one large aperture. I then took a second stem-scalpel, formed on the same model as the preceding, with this difference, that the incisory edge lay on the other side of the blade; and laying this instrument on the fore-finger as before,—in such a manner, however, that the cutting edge lay forth on the other side of the finger, (to the right of the pelvis, I mean,)—I carried the finger thus armed from the middle of the vagina, where the former incision commenced, to the root of the broad ligament on the right side; so that, at the end of this, which was the second step of the operation, the diseased and healthy portions of the vagina behind became completely detached from each other by a transverse incision, which stretched across the vagina, between the roots of the broad ligaments immediately below the diseased parts. At this time the intestines could be felt hanging about the tips of the fingers; but the blade of the scalpel lying on the finger, in which it was as it were imbedded, the risk of a wound, whether by point or edge, was completely prevented.

Third Stage of the Operation.—The back of the vagina, then, having been divided in this manner, I urged the whole of the left hand, not of large size, into the vaginal cavity, and the more easily because the woman had borne children; afterwards passing the first and second fingers through the transverse opening along the back of the uterus,—this viscus lying, as usual, near the brim of the pelvis, with its mouth backward, its fundus forward, and a little elevated just above the symphysis pubis. This manœuvre premised, under full protection of these fingers, now lying between the womb and the intestine, taking a double hook, *mounted on* a stem eleven inches long, I passed it into the abdominal cavity, through the transverse aperture, along the surface of the fingers already mentioned; and laying it in front of them, near their tips, I converted these fingers into a sort of sentient tenaculum, which, with little pain to the patient, I pushed into the back of the womb, near the fundus, and then drawing the womb downward and backward, towards the point of the os cocygis, as I carried the fingers upward and forward, I succeeded *ultimately* in placing the tips over the fundus in the manner of a *blunt hook;* after which, by a movement of retroversion, the womb was very *speedily* brought downwards and backwards into the palm of the left hand, then lodging in the vagina where, at this part of the operation, the diseased mass might be seen distinctly enough lying just within the genital fissure.

Fourth Stage of the Operation.—The process of removal being brought to this point, the diseased structure, still in the palm of my hand, remained in connexion with the sides of the pelvis, by means of the fallopian tubes and broad ligaments, and with the bladder by means of the peritoneum, the front of the vagina, and the interposed cellular web,—parts which were easily divided, so as to liberate the mass to be removed. The broad ligaments were cut through, close upon the sides of the uterus; and, in dividing the vagina, great care was taken to keep clear of the neck of the bladder and the ureters. This division of these attachments, and the removal of the diseased mass, constituted the fourth step of the operation.—Some bits of indurated vagina, altogether not larger than the common bean, were left in the pelvis, to be removed at some future period, should symptoms require. This fact is worth recording.

To this circumstantial account of the operation may be added a few remarks. The intestines did not protrude. About an ounce of blood was lost when the back of the vagina was divided, three or four more ounces following when the vagina was cut in front. Ligatures, tenacula, and forceps, were in readiness to secure the vessels, but these were not required.

The intestines were felt at one time only, namely, when two fingers were lying out through the opening in the vagina behind. Of course, some pain was felt when the first incisions were making, and when as in ordinary obstetric operations, the hand was urged into the vagina; but the principal distress was occasioned by drawing down the uterus, when the retroversion was accomplished, and the ligaments were put upon the stretch.

The pains and complaints scarcely exceeded those observed in instrumental deliveries. The patient lay in the ordinary obstetric position, and required no restraint. The insertion of the hook into the back of the uterus did not occasion much suffering. The operation, from first to last, occupied about an hour; but much of this time was spent in reposing, and considering what might best be done. With better instruments and greater activity, the whole operation might most probably be completed in five minutes. In obstetrics, however, celerity is considered to be in itself a secondary merit, and the operation was conducted on obstetric principles. The general range of the pulse was between 120 and 130, a frequency common in delivery by instruments.

When the last gush of blood was observed, the pulse became imperceptible in the wrist; returning, however, in the course of ten or fifteen minutes. A few ounces of spirit were administered to the patient as the operation proceeded. Throughout the process the forefinger of the left hand was the principal instrument, and the scalpels and hooks were employed merely as the means of arming the finger for its various operations.

The professional friends who favoured me with their presence were, Dr. Elliotson, Mr. Callaway, Mr. B. Cooper, Mr. Key, and Mr. Morgan.—An accident deprived me of the presence and assistance of my friend Dr. Roots.

The operation was not undertaken at a venture, but in conformity with certain principles laid down in two papers read before the Medico-Chirurgical Society; the first of them in the year 1819, and the last in the year 1823. The latter, which was not published, contains the proposals for other abdominal operations. The fundamental principles of these operations, as there stated, are rested upon numerous observations made upon the human body, and a sufficient number of experiments upon brutes.—Should the case here narrated come before the eyes of the public, I hope it may tend to diminish any unreasonable prejudices against experiments and experimenters. The feeling is respectable, but by the designing it may be misdirected. In Lisfranc's operation I conceive there must be some misapprehension. I think I run no risk in saying that by his method of procedure, as understood here, what the English accoucheur means by cancer of the uterus must frequently be irremovable.

It is now five months since the parts were extirpated, and the patient is fat and well, and designs to return to her husband. The interception of the access to the ovaries is a complete security against extra-uterine impregnation. The head of the vagina is closed by the bladder, which lies upon it. The recovery was easy enough, but as the details may perhaps be deemed desirable, they shall be communicated at an early opportunity.—The patient had been ill for eight or nine months before the operation was performed.—*Medical Gazette.*

CHEMISTRY.

Bitter of Aloes. Carbazotic Acid.—It is well known that the peculiar substance produced by the action of nitric acid upon aloes, combines with bases, and forms salts which detonate by heat; this substance is the aloetic acid of Braconnot. Mr. Liebeg formerly made some experiments on this substance, but they were not satisfactory. He has lately renewed his experiments, and finds that the detonating principle is carbazotic acid.

The bitter of aloes is plentifully obtained by the action of nitric acid of p. gr. 1.25. With potash it forms a purple salt, which is but slightly soluble, which precipitates the salts of barytes, lead and peroxide of iron in flocks of a deep purple colour; the proto-nitrate of mercury is precipitated of a light red. In order to decompose the salt of potash, it was decomposed by acetate of lead; and contrary to all expectation, the weight of the precipitate was less than that of the potash—salt employed. The washings were of a yellow colour, and deposited crystals of the same. These crystals, treated with heat and sulphate of potash, yielded carbazotate of potash, from which the carbazotic acid was separated.

When aloes are heated with nitric acid of 1.432, as long as vapours of nitrous acid are disengaged, and on afterwards mixing the liquor with a little water to separate the bitter, there may be obtained by saturating the liquor with potash and evaporation, a large quantity of carbazotate of potash in fine crystals. The bitter of aloes is consequently a compound of a peculiar substance, possessing the properties of the rezins and carbazotic acid.

Wool, morphia, narcotine and myrrh, yielded no carbazotic acid when treated with nitric acid.—*Phil. Mag. and Annals.* Vol. 4. p. 67.

Anhydrous crystals of Sulphate of Soda.—When a solution of sulphate of soda is allowed to evaporate spontaneously, crystals will be produced, which by their form and by their efflorescence are distinguished as the salt in question. Most of the salts of potash and soda may be distinguished as to their base by such an experiment. They are easily converted into sulphates by a drop or two of sulphuric acid and ignition; and then being dissolved and tried as above, will yield crystals, which may be known by their forms and more especially by their efflorescence if of soda, and their unchangeable state if of potash. This test is, however, in some circumstances liable to uncertainty, arising from a curious cause. If the solution be allowed to evaporate at common temperatures, then the efflorescence takes place, and the distinction is so far perfect; but if the solution be placed upon a warm part of a sand-bath or hot iron plate, or in any other situation of a certain temperature considerably beneath the boiling point of the solution, the crystals which are left upon evaporation of the fluid are smaller in quantity, more similar in appearance to sulphate of potash, and finally *do not* effloresce. Upon examining the cause of this difference, I found they were *anhydrous;* consequently incapable of efflorescing, and indeed exactly of the same nature as the crystals obtained by Dr. Thompson from certain hot saturated leys.—*Ann. Phil. N. S.* xx. 201.

Hence it would appear that a mere difference in the temperature at which a solution of sulphate of soda is evaporated, will cause the formation of hydrated or anhydrous crystals at pleasure, and that whether the quantity of the solution be large or small. This indeed might have been expected from that which takes place when hydrated crystals of sulphate of soda are carefully melted; a portion dissolves, and a portion separates, the latter in an anhydrous state. I find, that, if it were desirable, crystallized anhydrous sulphate of soda might easily be prepared for the market; though as the pure salt is now but little used, it is not likely this condensed form will be required. Whenever a soda salt is to be distinguished from one of potash, in the manner above described, this effect of temperature must be carefully guarded against.—*Farraday in Brande's Jour. N. S.* Vol. 8. p. 223.

I have not unfrequently met with, in commercial samples of sulphate of soda, crystals which did not effloresce upon exposure to air. They were undoubtedly the anhydrous crystals above described, and were formed during the rapid evaporation of the solution.—L. C. B.

On the influence of the Air in determining the crystallization of Saline solutions.—In the number of the "Philosophical Magazine and Annals" for September last, Mr. Thomas Graham has given a satisfactory explanation of a fact which has long puzzled chemists. The fact to which we refer is as follows. When a phial is filled with a boiling saturated solution of Glauber's salt, and its mouth immediately stopped by a piece of bladder tied tightly over it while it is hot, the solution will cool without crystallizing, and will continue entirely liquid for hours and even days, although it contains a great excess of salt. If the bladder, however, is punctured, and the air admitted, the solution is immediately resolved into a spongy crystalline mass, with the evolution of much heat. From numerous experiments which appear to be unexceptionable, Mr. Graham concludes, *that air determines the crystallization of supersaturated saline solutions by dissolving in the water, and thereby giving a shock to the feeble power by which the excess of salt is held in solution.*

The expansion of the whole mass when it becomes solid is shown by Mr. Graham to be entirely a momentary dilatation of the whole contents of the phial, both liquid and solid, by the evolution of heat, which occurs at the instant of crystallizing, and which always amounts to 20° or 30° Fahr.

It should be observed, that M. Gay Lussac, in his paper on crystallization (*Ann. de Chim.* tom. 87.) had distinctly thrown out the same theory as a conjecture, although the circumstance is not noticed by any systematic chemical writer. But as Mr. Graham observes, Gay Lussac brings forward no experimental illustrations of the theory, and indeed adduces one experiment as unfavourable to it, the experimental confirmation of the theory is novel, and was certainly required.

Preparation of Conia, the Alkali of the Conium Maculatum. By M. BRANDES.—The best method of obtaining this alkali is to digest the fresh herb in alcohol during some days, afterwards evaporating the filtered alcohol, agitating the residuum with water and treating this mixture either with alumina, magnesia, or oxide of lead; the whole is to be evaporated to dryness, and the residuum obtained treated with a mixture of alcohol and ether, which when again evaporated, leaves the *conia*. This substance which was discovered and also named by M. Peschier, possesses very marked alkaline properties. According to M. Giseke, the aqueous solution forms, with the tincture of iodine, an abundant reddish precipitate; it renders tincture of galls slightly brown, precipitates muriate of zinc and nitrate of mercury of a dirty yellow; renders carbonate of potash and soda slightly turbid; gives a brown colour to muriate of platina; and produces a white precipitate with the nitrates of silver and barytes, the acetate of barytes and lead, muriate of lime and lime water.

Half a grain of conia is sufficient to kill a rabbit; the symptoms which occur resemble those produced by strychnia.—*Phil. Mag. & Ann.* Vol. iv. p. 231.

An account of the formation of the Alcoates, definite compounds of salts and alcohol analogous to the hydrates. By THOMAS GRAHAM.—The October number of Dr. Brewster's Journal contains a notice of this paper which has been recently published in the Transactions of the Royal Society of Edinburgh. The bodies here described are definite solid compounds of salts and alcohol, analogous to the hydrates, and are perfectly crytallizable. Those which Mr. Graham succeeded in forming are not numerous. They were obtained simply by dissolving the salts, previously rendered anhydrous, in absolute alcohol, with the aid of heat. Upon cooling, the alcoates were deposited in the solid state. The crystallization was generally compound, but in some cases singular crystalline forms appeared. The crystals are transparent, decidedly soft, and easily fusible by heat in their alcohol of crystallization, which is generally considerable, amounting in one instance to near three-fourths of the weight of the crystals.

The following are the alcoates obtained :

1. *Alcoate of Chloride of Calcium*, consisting of

Chloride of Calcium,	2 atoms	=	112
Alcohol,	7 atoms	=	161
			273

2. *Alcoate of Nitrate of Magnesia*, consisting of

Nitrate of Magnesia,	1 atom	=	74
Alcohol,	9 atoms	=	207
			281

3. *Alcoate of Nitrate of Lime*, consisting of

Nitrate of Lime,	2 atoms	=	164
Alcohol,	5 atoms	=	115
			279

4 *Alcoate of Protochloride of Manganese*, consisting of

Protochloride of Manganese,	1 atom	=	64
Alcohol,	3 atoms	=	69
			133

5. *Alcoate of Chloride of Zinc*, consisting of

Chloride of Zinc,	2 atoms	=	140
Alcohol,	1 atom	=	23
			163

Mr. Graham considers it probable that many more alcoates of salts may be formed, particularly of the metallic chlorides; but the great obstacle to their formation is the difficulty and frequently the impossibility of rendering the salts perfectly anhydrous before their solution in alcohol is attempted.

DOMESTIC.

Copy of a Letter from G. K. Laurence, *Physician, of New-Lebanon, to* J. P. Carrol, *of New-York, dated Nov.* 4, 1828.

"Worthy Friend,

"In answer to your inquiries respecting my opinion of the Medicated Vapour Bath, I cheerfully state, that I consider it, in judicious hands, one of the most efficient means of preserving health and removing the various diseases to which human flesh is heir. It is about six years since we introduced the Medicated Vapour Bath to use in our Society; and in this period I have witnessed its beneficial effects in a great variety of cases. Experience has taught us to consider the bath one of the readiest and most powerful, as well as pleasant means of removing diseases, and we have a bath in almost every family. Owing to certain endemical causes, we are liable in this section to attacks of typhus, bilious, and autumnal fevers in the warm season; and fevers of the inflammatory type in the cold weather. But for five years past, in every case where the bath has been given, we have not had a fever run on three days. Our usual course has been, to cleanse the stomach and bowels at the onset, and then sweat the patient thoroughly in the bath. By this course, we find by experience, that at least seven-eighths of fevers can be cut short at once. By a reference to the case-book, I find that the beneficial effects of the bath have been very apparent in dropsy, rheumatism, tetanus, spasms, eruptions, measles, hooping cough, fevers of various kinds, inflammations, erysipelas, and diseased lungs. Common colds are removed at once, by a timely application of the bath; and dysentery, which often arises from obstructed perspiration, is immediately relieved by restoring the healthy functions of the cutaneous vessels. Appropriate medicines must also be given; but the enlightened physician will find in the Medicated Vapour Bath a powerful adjunct to his various remedies. By the bath we are enabled, *to a certainty,* to produce that moist state of the *skin which* the physian ever regards as favourable in all diseases. But *it is* essential and should ever be kept in mind,that the alimentary canal should be in a tolerably open state and freed from foul accumulation before giving the bath. The reason is obvious.

"The general tendency of the bath is to quicken the pulse while in, unless such medication is used as counteracts the stimulating effects of the heat. By employing sedative plants, such as digitalis, I have often reduced the pulse twenty beats per minute; and this effect would last for twenty-four hours after coming out. Hence the utility of the bath in cases of spitting of blood and consumption; for we are enabled in the form of vapour to apply the remedy to the extensive surface of the tissues of the lungs, while at the same time the skin is brought into the best possible state to facilitate the cure. In so formidable a disease as this, the bath is not to be relied on as the only necessary remedy; on the contrary, nothing should be omitted which the experience of the most skilful physician may deem proper.

As a general remedy for cough and lung complaints, the liverwort in decoction is certainly worthy of a thorough trial, either in the simple form of a decoction, or the more powerful form of concentrated syrup.—This, with the bath, I have known to perform astonishing cures.

"I remain, your devoted Friend,
"G. K. LAURENCE."

UNIVERSITY REGISTER.

Catalogue of the Regents of the University of the State of New-York, from the establishment of the University.

Date of election or appointment.	NAMES.	Exitus.
1787	George Clinton, Governor, *ex officio*,	1795
1795	John Jay, Governor, *ex officio*,	1801
1801	George Clinton, Governor, *ex officio*,	1804
1804	Morgan Lewis, Governor, *ex officio*,	1807
1807	Daniel D. Tompkins, Governor, *ex officio*,	1817
1817	De Witt Clinton, Governor, *ex officio*,	1822
1822	Joseph C. Yates, Governor, *ex officio*,	1824
1824	De Witt Clinton, Governor, *ex officio*,	1828
1787	Pierre Van Cortlandt, Lieut.-Governor, *ex officio*,	1795
1795	Stephen Van Rensselaer, Lieut.-Governor, *ex officio*,	1801
1801	Jeremiah Van Rensselaer, Lieut.-Governor, *ex officio*,	1804
1804	John Broome, Lieut.-Governor, *ex officio*,	1812
1812	De Witt Clinton, Lieut.-Governor, *ex officio*,	1814
4814	John Taylor, Lieut.-Governor, *ex officio*,	1822
1822	Erastus Root, Lieut.-Governor, *ex officio*,	1824
1824	James Tallmadge, Lieut.-Governor, *ex officio*,	1826
1826	Nathaniel Pitcher, Lieut.-Governor, *ex officio*,	

1787, Apr. 13.	Rev. John Rodgers, D.D.	died 1811
Do.	Hon. Egbert Benson, LL.D.	resigned 1802
Do.	Hon. Philip Schuyler,	died 1804
Do.	Hon. Ezra L'Hommedieu,	died 1811 ?
Do.	Rev. Nathan Kerr,	died 1804 ?
Do.	Hon. Peter Sylvester,	died 1808 ?
Do.	Hon. John Jay, LL.D.	resigned 1790
Do.	Rev. Dirck Romeyn, D.D.	resigned 1796
Do.	Hon. James Livingston,	resigned 1707
Do.	Hon. Ebenezer Russel,	resigned 1813
Do.	Hon. Lewis Morris,	died 1798 ?
Do.	Hon. Matthew Clarkson,	died 1825
Do.	Right Rev. Benjamin Moore,	resigned 1792
Do.	Rev. Eliardus Westerlo, D.D.	died 1790
Do.	Rev. Andrew King,	died 1815
Do.	Rev. William Linn, D.D.	died 1808
Do.	Hon. Jonathan G. Tompkins,	resigned 1808
Do.	Rev. John McDonald,	resigned 1796
Do.	Frederick Wm. Baron De Steuben,	died 1794

Date of election or appointment.	NAMES.	Exitus
1790, Mar. 30.	Hon. Gulian Verplanck,	died 1800
1701, Jan. 15.	Hon. Zephaniah Platt,	died 1807
1795, Jan. 28.	Hon. James Watson,	died 1806
1796, Feb. 18.	Hon. James Cochran,	resigned 1819
1796, Mar. 24.	Rev. Jonas Coe, D.D.	declined accepting
1797, Jan. 11.	Hon. Abram. Vanbechten, LL.D.	resigned 1823
1797, Feb. 28.	Rev. Thomas Ellison,	died 1802
1798, Mar. 13.	Simeon De Witt, Esq.	
1800, Feb. 3.	Hon. James Kent, LL.D.	vacated 1816
1802, Feb. 1.	Hon. John Taylor,	
1802, Feb. 15.	Henry Rutgers, Esq.	resigned 1826
1802, Feb. 18.	Hon. Charles Selden,	vacated 1816
1805, Jan. 28.	Hon. Ambrose Spencer, LL.D.	vacated 1816
Do.	Hon. Lucas Elmendorf,	vacated 1822
1807, Feb. 11.	Hon. Elisha Jenkins,	
1808, Feb. 11.	Hon. De Witt Clinton, LL.D.	resigned 1825
Do.	Gen. Peter Gansevoort,	died 1812
Do.	Hon. Alexander Sheldon,	vacated 1816
1809, Jan. 31.	Hon. Nathan Smith,	vacated 1822
1812, Feb. 28.	Hon. Joseph C. Yates,	
1812, Feb. 28.	Solomon Southwick, Esq.	resigned 1823
1813, Mar. 3.	Hon. Smith Thompson,	resigned 1819
Do.	Hon. John Woodworth,	resigned 1822
1816, Mar. 4.	Hon. Martin Van Beuren,	
1817, Jan, 28.	Hon. John Lansing, jun.	
Do.	Rev. John De Witt, D.D.	resigned 1823
Do.	Hon. Samuel Young,	
Do.	Hon. Nathan Williams,	vacated 1824
1819, Mar. 16.	Hon. Stephen Van Rensselaer, LL.D.	
1820, Feb. 1.	Hon. William A. Duer,	vacated 1824
1822, Feb. 7.	Hon. James Thompson,	
Do.	Hon. Harmanus Bleecker,	
1823, Feb. 14.	Samuel A. Talcott, Esq.	
Do.	James King, Esq.	
Do.	Peter Wendell, M.D.	
1823, Apr. 9.	William L. Marcy, Esq.	
1821, Feb. 13.	Hon. Peter B. Porter,	
Do.	Hon. Robert Troup,	resigned 1827
1825, Jan. 12.	John Greig, Esq.	
1826, Jan. 26.	Jesse Buel, Esq.	
Do.	Hon Gulian C. Verplanck,	
1827, Feb. 20.	Hon. Edward P. Livingston,	

Officers of the Board of Regents.

CHANCELLORS OF THE UNIVERSITY.

Date of appointments.	NAMES.	Exitus.
1787, July 17.	George Clinton,	1796
1796, Jan. 20.	John Jay,	1802
1802, Feb. 15.	George Clinton,	1805
1805, Feb. 4.	Morgan Lewis,	1808
1808, Feb. 8.	Daniel D. Tompkins,	1817
Do.	John Tayler,	

VICE-CHANCELLORS.

1787, July 17.	Hon. John Jay,	1790
1790, Mar. 31.	Rev. John Rodgers, D.D.	1808
1808, Feb. 8.	Rev. John Rodgers, D.D. (re-appointed)	1811
1814, Mar. 14.	John Tayler,	1817
1817, Feb. 3.	Simeon De Witt.	

SECRETARIES.

1787, July 17.	Richard Harrison,	1790
1790, April 7.	Nathaniel Laurence,	1794
1794, Jan. 21.	De Witt Clinton,	1797
1797, Jan. 23.	David S. Jones,	1798
1798, Mar. 19.	Francis Bloodgood,	1814
1814, Mar. 25.	Gideon Hawley.	

TREASURERS.

1790, Mar. 31.	Gerard Bancker,	1798
1798, Mar. 19.	Francis Bloodgood.	

Historical account of the Medical Department of the University of the State of New-York.

[Continued from p. 320.]

On the 3d of April 1807, the Regents proceeded to make the following appointments in their newly organized College.

Samuel L. Mitchill, M.D. Professor of Chemistry.

Edward Miller, M.D. Professor of the Practice of Physic.

David Hosack, M.D. Professor of Botany and Materia Medica.

Archibald Bruce, M.D. Professor of Mineralogy.*

Benjamin De Witt, M.D. Professor of the Institutes of Medicine.

At the same meeting also, in consequence of a suggestion that foreign correspondence might prove of importance to the College, the following gentlemen were appointed Honorary Members.

Andrew Duncan, M.D. Professor of Medicine, Edinburgh.
James Home, M.D. Professor of Materia Medica, do.
Thomas C. Hope, M.D. Professor of Chemistry, do.
James Hamilton, M.D. Physician to the Royal Infirmary, do.
Robert Percival, M.D. Professor of Chemistry, Dublin.
Trebur M. Themman, M.D., Amsterdam.
Sir John M. Hayes, M.D. London.
John Cooke, M.D. do.
Robert Willan, M.D. do
Andrew Bain, M.D. do.
James E. Smith, M.D. do.
William Heberden, M.D. do.
Alexander Crichton, M.D. Physician to the Emperor of Russia.
P. Pinel, M.D. Paris.
D. Desgenettes, M.D. do.
Benjamin Rush, M.D. Professor of the practice of Physic, Philadelphia.
Caspar Wistar, M.D. Professor of Anatomy, do.
Targioni Tozetti, M.D. Italy.

On the 6th of April, John R. B. Rodgers, M.D. was appointed Professor of Midwifery, and the Regents then adjourned until the next session of the Legislature.

In their Annual Report of this year the following remarks occur.

"The Regents further report, that they have during the present session, incorporated a College of Physicians and Surgeons in the city of New-York. From attentively observing the state of medical instruction in our principal city for several years past, and comparing it with that of a neighbouring state, they are persuaded such an institution has become highly requisite, and they flatter themselves that its character will soon become such as the population and importance of the state authorise us to expect."

On the 8th of February 1808, the Regents commenced their annual session. The resignation of Dr. Rodgers, as Professor of Midwifery, was communicated and accepted. A memorial and report from the College of Physicians and Surgeons was received and referred to Mr. De Witt, Mr. Jenkins and Mr. Taylor. This committee reported on the 22nd, and from their report, it appeared that the College had opened and commenced its business in a manner that promises to answer all the expectations entertained by the Regents in its establishment. The memorial states that it will be important to the stability and usefulness of the Institution, if the Regents would exercise the power they have reserved of appointing the President, Vice-President, Register, Treasurer and Censors of the College for the term of five years. Your committee can see no reasonable objections to acceding to this proposition, and I have prepared a draft of an ordinance, &c.

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* In the Historical sketch of the College, printed 1813, Dr. Bruce's name is omitted.

After discussing the draft, it was on the 3d of March adopted. We give its leading details as briefly as possible.

Such part of the ordinance establishing the College as grants to it the corporate rights of electing by ballot at their anniversary meeting, a President, Vice-President, Register, Treasurer, and thirteen Censors, is revoked, and the right of appointing those officers is vested in the Regents, and the offices are to be held during their pleasure, provided however that in case of the death or resignation of any person appointed to an office in the said College, a majority of the legal trustees present at a meeting, are authorised to appoint a proper person to said office *pro tempore*, until the pleasure of the Regents be known.

All the members or trustees of the College named in the Charter, residing in the city of New-York, shall, on or before the 1st of May next, and those residing out said city, shall on or before the 1st of November next, declare in writing to the President or Register, their acceptance of said office, and those who shall neglect or refuse to signify their acceptance, are declared to be displaced, and are no longer trustees.

All Presidents, Vice-Presidents, Registers, Treasurers, and Censors, hereafter to be appointed, shall sign a declaration promising faithfully to perform their duties, and in default of doing this, within one month after receiving official notice of their appointment, the office shall be vacated.

The President, Vice-President, Register, Treasurer, and Professors shall constitute a Senatus Academicus, who are ordered to make such ordinances as they may deem expedient for their own government, and for the government of the students of the College, and for promoting their education.

Such part of the Charter as requires twenty-one members to form a board is revoked, and thirteen members are declared a quorum.

On the 21st of March 1808, a committee reported that it would be expedient to establish the following eight professorships—of the Practice of Physic—of Botany and Materia Medica—of Mineralogy—of Anatomy and Surgery—of Chemistry—of the Institutes of Medicine—of Midwifery—and of Natural History.

Owing to Dr. Mitchill's situation as senator in Congress, he was unable to attend his duties as Professor of Chemistry, and therefore offered to resign that place. Dr. De Witt, who was acting as Lecturer on Chemistry, could not attend as he desired to the Professorship of the Institutes. The committee therefore recommend that the respective resignations be accepted, and that the vacancies in the five last named professorships be filled. This was agreed to, and the following appointments were made:

Dr. John Augustine Smith, Professor of Anatomy and Surgery.
Dr. Benjamin De Witt, Chemistry.
Dr. Nicholas Romayne, Institutes of Medicine.
Dr. William James Macneven, Midwifery.
Dr. Samuel L. Mitchill, Natural History.

The following officers of the College were also appointed:

Dr. Nicholas Romayne, President.
Samuel L. Mitchill, } Vice-Presidents.
Hugh Williamson, }
Archibald Bruce, Register.
John D. Gillespie, Treasurer.

Censors.

James G. Graham, of Ulster County.
Peter C. Adams, Greene.
Westel Willoughby, Herkimer.
Lyman Cook, Westchester.
David R. Arnell, Orange.
John Stearns, Saratoga.
Henry M. Van Solingen, New-York.
Samuel Torbert, do
John D. Jaques, do.
George W. Chapman, do.
John C. Osborn, do.
Andrew Hunt, do.
Joseph Bloodgood, do.
Dr. John A. Smith, } Trustees.
John C. Osborn, }

On the 4th of April 1808. The resignation of Dr. David Hosack, as Professor of Botany and Materia Medica, was received and read.

Resolved that the same be accepted.*

It was further resolved that the Professorship of Botany and Materia Medica be abolished, and that Botany be annexed to the Professorship of Natural History and Materia Medica, to that of the Institutes of Medicine.

In the Annual Report of the Regents it is stated, that the number of Students attending the College is 53.

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* It was immediately previous to the acceptance of this resignation, that the following letter was presented to the Regents. We copy it with the commentary accompanying it, from a pamphlet entitled "*An Exposition of the Transactions relative to the College of Physicians and Surgeons in the city of New-York, from its establishment until the assumption of the Charter by the Regents of the University* New-York, 1812. The authenticity of the letter has never been denied.

The following appear on the Minutes of the Regents for 1809. On the 13th of February.

" Be it ordained, that it shall be the duty of the Professors of the Univer-

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"Dr. Hosack has accused himself in one of his publications, of being engaged in dissentions and feuds, during the short time he was a member of the College. This, however, is incorrect; as the Doctor conducted himself with order and decency, and from his proper behaviour he was appointed the Lecturer on Midwifery and Surgery, by his fellow members. The Regents, however, refused to sanction the proceedings of the College in favour of Dr. Hosack, and appointed Dr. Smith to be the Professor of Surgery, and Dr. Macneven to be the Professor of Midwifery. On this subject, the following letter from Dr. Hosack was laid before the Regents, as explanatory of the Doctor's views.

" New-York, Feb. 10, 1808.

" MY DEAR SIR,

" I have good reason to believe that it is not your intention to procure the appointment of the Professorship of Surgery and Midwifery for me. I need not relate the circumstances which have led to this opinion, nor the direct information I have received. If so, I have only to remark, that I abandon the Institution in toto. I do not choose to be botanist or midwife to it, if unaccompanied with a more respectable appointment.

I cheerfully give up Materia Medica and Botany when you please, which afterwards can be arranged for Gillespie, Macneven, &c. But if Dr. Smith is appointed Professor of Anatomy and Surgery, De Witt to Chemistry, and I not made Professor of Surgery and Midwifery, I now request you, as President of the College, to communicate to the Regents my resignation of the appointment which they have bestowed on me.

I can spend my time more profitably than by teaching unproductive branches to the College of Physicians. I am very candid with you, Doctor, as I have ever been, but I must not be neglected.

I am, SIR, yours,

(Signed) D. HOSACK."

DR. NICHOLAS ROMAYNE,
President of the Medical Society, Albany.

" From the tenor of the preceding letter, Dr. Hosack himself had no prospect of succeeding in the College as a Professor of Botany or Materia Medica; and the Regents supposed him less qualified to teach Surgery and Midwifery than the gentlemen whom they appointed; in consequence of which, Dr. Hosack, by return of post, sent a letter of resignation to the Regents, which was accepted, and the Doctor was not afterwards seen in the College."

sity for the College of Physicians and Surgeons in [the city of New York, to examine all candidates for the degree of Doctor of Medicine in said College, and to report to the Regents, from time to time, such candidates as shall be found qualified and worthy to receive the said degrees to the end that the Regents may in their discretion, grant diplomas conferring the same."

On the 27th the form of a Diploma was agreed upon.

On the 6th of March, the resignation of Dr. Romayne, as Professor of Materia Medica, was accepted.

Dr. Archibald Bruce, Professor of Mineralogy was appointed Professor of Mineralogy and Materia Medica.

In the Annual Report for the year (1809,) the number of Students is stated to be 73.

During the Session of 1810, a report was, as usual, received from the College. The Committee to whom it was referred, in the notice of the same state, among other things, that no provision is made for clinical instruction in surgery, to the students at the New-York Hospital, and they recommend that the Senatus Academicus be required to endeavour to make the necessary arrangements with the Governors of the New-York, Hospital, "that the students of the said College may be instructed in practical surgery by the Professor of Anatomy and Surgery."

The College had also expressed a desire that the Regents should regulate the fees of the Professors, so that they should not exceed an aggregate of forty dollars for the winter's courses and twenty *dollars for the summer* courses. The Committee deem this a totally inadequate compensation, and consider the fees established by the Senatus Academicus, of twenty dollars for the course on anatomy, and fifteen dollars for each of the other courses, as reasonable and proper, and they suggest that the fee of the Professor of Chemistry be increased.

Resolutions according with these suggestions were adopted. The Senatus Academicus was directed to confer with the Governors of the Hospital, and in case an arrangement could be made, the Professor of Anatomy and Surgery was directed to admit the students to attend his clinical practice and lectures free of expense. "And the said Senatus Academicus are requested to report to us their proceedings herein, to the end that we may be enabled to report the state of medical learning in the said College of Physicians and Surgeons, to the Legislature of this State, according to law."

The fee of the Professor of Chemistry was raised to twenty dollars.

The following appointments were made :—

Dr. B. De Witt Vice-President, vice Dr. Williamson, who declined.

Dr. Wm. J. McNeven, adjunct Professor of Chemistry.

Dr. Benjamin Prince and Dr. Joshua Secor, Censors in the room of Dr. John C. Osborn and Dr. Andrew Hunt, who declined serving.

On the 29th March, 1810, the Regents conferred the degree of Doctor of Medicine on—

William E. Burrel, Samuel Maxwell, and Samuel A. Walsh of New-York.

Thomas E. Steel and John D'Arcey of New-Jersey.

(*To be continued.*)

QUARTERLY BIBLIOGRAPHICAL NOTICES.

1. *A System of Materia Medica and Pharmacy; including Translations of the Edinburgh London and Dublin Pharmacopoeias.* By JOHN MURRAY, M.D. Fellow of the Royal College of Physicians and Surgeons, of the Royal Society of Edinburgh, of the Geological Society of London, &c. Lecturer on Chemistry and Materia Medica and Pharmacy. From the fourth and last Edinburgh edition. With Notes and Additions by JOHN B. BECK, M.D. Professor of Materia Medica in the University of the State of New-York, Corresponding Member of the Medical Society of London, &c. &c. New-York, 8vo. pp. 580. 1828.

2. *The Western Journal of the Medical Sciences.* Edited by DANIEL DRAKE, M. D. late Professor of the Theory and Practice of Medicine in the Transylvania University, &c. Five Nos. for July, August, September, October, November. 1828.

   In exchange.

3. *The Transylvania Journal of Medicine and the Associate Sciences*—Edited by JOHN ESTEN COOKE, M.D. Professor of the Theory and Practice of Medicine, and CHARLES WILKINS SHORT, M.D. Professor of Materia Medica and Medical Botany in Transylvania University. No. 4.

   In exchange.

4. *A Manual of General Anatomy, containing a concise Description of the Elementary Tissues of the Human Body.* From the French of A. L. J. Bayle and H. Hollard. By J. D. GROSS, M.D. Philadelphia, 8vo. pp. 272. 1828.

5. *Litterarische annalen der gesammten Heilkunde heraus gegeben.* Von Dr. J. F. C. Hecker, Professor, &c. 2 Nos. for July and September, 1828.

   In exchange.

NOTICES.

The Honorary Degree of Doctor in Medicine has recently been conferred by the Medical College of Castleton (Vermont) upon Dr. ELIAL T. Foote, of Chatauque, New-York.

A CARD.

Dr. Tessier feels desirous to avail himself of a corner of this Journal in order to apologise to his professional brethren for the delay which has occurred in the translation of Begin's Therapeutics, in consequence of Mess. Carey, Lea & Carey, of Philadelphia, having to this day retained in their possession a considerable portion of the manuscript, which Doctor T. has been thereby compelled to write over a second time; and he hopes that this circumstance, which several of his friends have attributed to a desire of injuring the credit of the work, will not subtract from the merit which is so universally and so justly allowed to exist in M. Begin's Treatise, nor from the favourable opinion which some might be disposed to entertain of the competency of the translator. The article, contained in the first part of this number, is chiefly intended as a specimen, both of the work in its English dress, and of Doctor Tessier's own contributions. It will be ready for delivery at Mr. Bliss's store, Broadway, in about three weeks.

New-York, Jan. 1829.

In the Press.—Charles S. Francis has in press a set of large Lithographic Plates, illustrative of surgical anatomy, from drawings taken from the subject under the eye of a professor; each plate on a folio sheet accompanied by descriptions.

This work will form a complete compendium of surgical anatomy.—Great care will be taken that the plates shall be executed *in the best possible manner*, and the publisher intends to put it at a very low price, that it may be within the reach of every medical student.

No. XXIX. will be published on the last day of March.

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Erratum.—Page 579, line 4 from top, read "long term of years."

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